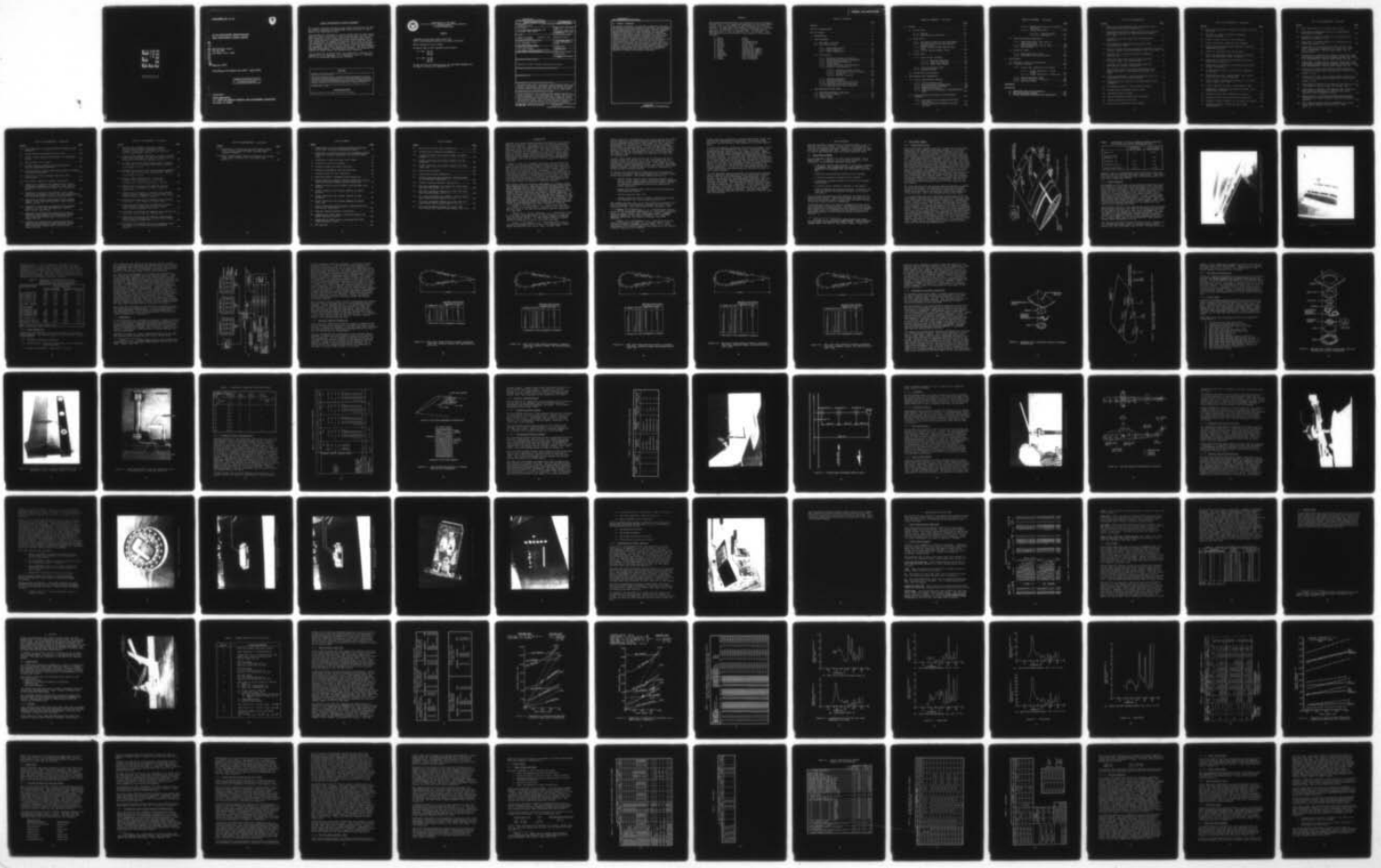
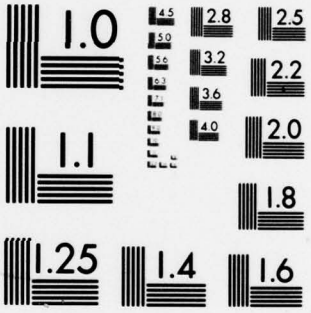
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Bell Helicopter Textron
P.O. Box 482
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February 1977

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Fort Eustis, Va. 23604

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This report has been reviewed by the Eustis Directorate, US Army Air Mobility Research and Development Laboratory and is considered to be technically sound.

This program was initiated to acquire flight data of rotor aerodynamic forces, aeroelastic loads, blade motions, and the attendant responses of the control system and airframe that result from flying maneuvers encompassing load factors measured in actual operations; to compare the measured rotor loads for selected maneuvers with predicted results; to record acoustical data, and to conduct vibration tests to acquire fuselage mode shapes, hub impedance, and control system spring rate. The work included hardware development, instrumentation assembly and installation, ground and flight tests, and selected data reduction.

This program was conducted under the consecutive technical management of W. T. Alexander, H. I. MacDonald, and D. J. Merkley, all of the Technology Applications Division.

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USAAMRDL Technical Report 76-39, February 1977
TITLE: AH-1G Helicopter Aerodynamic and Structural Loads Survey

Make the following pen and ink changes:

On page 42, Table 4, add six additional hot-wire locations:

r/R = .855	.06 (17)
	.06 (15)
	.18 (13)
r/R = .955	.18 (18)
	.06 (16)
	.06 (14)

On page 156, Figure A.2, relabel the vertical axis "INDICATED PRESSURE, PSI", and relabel the horizontal axis "NUMBER OF G'S".

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Accurate prediction of helicopter system loadings required detailed knowledge of rotor aerodynamic environments and structural dynamic responses. This report describes a flight test program of an AH-1G helicopter where airfoil surface pressure, leading edge stagnation point, local flow magnitude and direction, blade accelerations, bending moments, and the attendant responses in the control system and airframe were measured simultaneously.

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20. ABSTRACT (CONTINUED)

The hardware development, instrumentation techniques, test conditions, and initial data analyses are discussed. The development of a rotating frequency-division multiplex, capable of regulating and conditioning over 300 transducer signals, and the component testing and calibration of those transducers are described. Samples are presented of pressure distributions, leading edge stagnation point versus azimuth, and surface flow magnitude and direction. Aerodynamic forces and responses in the rotor and control systems are presented and compared with predicted analytical values. Acoustic signals and airload fluctuations are used to locate and define the origin of rotor noise during high-speed flight and in operating regimes of strong wake interaction. It is concluded that the Rotor Environment Test Instrumentation (RETI) is a proven and reliable means to gather large quantities of rotating- and fixed-system data simultaneously. The data obtained from this initial flight test program are available to industry and government researchers.

PREFACE

The program described herein was conducted by Bell Helicopter Textron (BHT). The program was sponsored by the Eustis Directorate, U.S. Army Air Mobility R&D Laboratory, Fort Eustis, Virginia, and was under the technical cognizance of W. Alexander, Jr., H. MacDonald, and D. Merkley. The BHT Project Engineers were C. Cox, G. Shockey, and J. Williamson. The BHT personnel who contributed to the success of this project include:

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1. INTRODUCTION

Improved rotor design requires detailed knowledge of the aerodynamic excitation of a helicopter rotor and the corresponding structural response. Measurements of the aerodynamic environment of a rotor in forward flight have been the object of considerable effort for many years. The primary parameters necessary to describe the aerodynamics of a rotor are: local blade angle of attack, blade surface velocities, and blade surface pressure distributions (chordwise and spanwise). These parameters need to be measured as functions of time simultaneously with dynamic data such as blade, control system and fuselage responses.

In 1965, a joint U.S. Army/Bell Helicopter Textron effort was initiated to develop new methods for measuring rotor environments to gain the knowledge needed to improve rotor efficiency. The initial work was conducted to study the boundary layer and flow field of a hovering rotor, Reference 1. As a result of this work, a program was proposed to develop instrumentation to simultaneously measure the aerodynamics and structural loads of a helicopter flying in a normal operating envelope. The objective was achieved through a series of research programs where each phase provided technical information, instrumentation design requirements and associated component hardware.

Wind tunnel tests and follow-on development of a blade surface-flow measuring sensor, referred to as the boundary layer button (BLB), demonstrated the BLB's feasibility and practicability.[2] Two-dimensional airfoil tests showed that the BLB can be used to measure velocity profiles on an airfoil.[3] Leading-edge hot-wire sensors were also developed and tested to locate stagnation. Initial full-scale tests of the BLB, the hot-wire sensor, and the static pressure transducer instrumentation were conducted in 1968. These tests verified that the instrumentation can survive in the experimental flight environment and that the "gloved-blade" approach is a successful method for installing rotating instrumentation without affecting the blade's structural integrity.

---

[1] Tanner, W. H. and Yaggy, P. F., "Experimental Boundary Layer Study of a Hovering Rotor," presented at the 22nd Annual National Forum of the American Helicopter Society, Washington D.C., May 1966.

[2] Tanner, W. H. and Van Wyckhouse, J. F., "Wind-Tunnel Tests of Full-Scale Rotors Operating at High Advancing Tip Mach Numbers and Advance Ratios," Bell Helicopter Company, USAAVLABS Technical Report 68-44, U. S. Army Aviation Materiel Laboratories, Fort Eustis, Virginia, July 1968, AD674188.

[3] Burpo, F. and Tanner, W. H., "Two-Dimensional Tests of Advanced Instrumentation for Rotors," Bell Helicopter Company Report 606-099-001, Fort Worth, Texas, December 1968.

A UH-1H main rotor instrumented at one radial station with BLBs, hot-wire sensors, and static pressure transducers was tested in the NASA/Ames 40-by-80-foot wind tunnel in 1969.[4] This test demonstrated the feasibility of measuring rotor aerodynamic environments in forward flight. It was concluded that differential pressure measurements mask details of the actual aerodynamic environment, and the amount of instrumentation must be increased to map the environment over more of the blade span. The practical use of accelerometers installed on a rotor was also demonstrated.

In 1971, whirl-stand tests proved that a time-division multiplexing system will operate in a rotor environment and can transmit a wide variety of signals and a large number of channels through a space-limited slip ring.[5] In the same time frame, subminiature signal conditioners and voltage control oscillators became available, permitting BHT to develop an improved frequency-division multiplex system.

The above rotor environment instrumentation was incorporated in an AH-1G helicopter, and an aerodynamic and structural loads survey was performed. The primary objectives were to:

- acquire flight data of rotor aerodynamic forces, aeroelastic loads, blade motions, and the attendant responses of the control system and airframe that result from flying maneuvers encompassing load factors measured in actual operations,

- compare the measured rotor loads for selected maneuvers with predicted results,

- record acoustical data, and

- conduct vibration tests to acquire fuselage mode shapes, hub impedance, and control-system spring rate.

The program extended over a 2-1/2 year period and included hardware development, instrumentation assembly and installation, ground and flight tests, and selected data reduction. The

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[4] Bowden, T. H. and Shockey, G. A., "A Wind-Tunnel Investigation of the Aerodynamic Environment of a Full-Scale Helicopter Rotor in Forward Flight," Bell Helicopter Company, USAAMRDL Technical Report 70-35, Eustis Directorate, U.S. Army Air Materiel Laboratory, Fort Eustis, Virginia, July 1970, AD875744.

[5] Bowden, T. H. and Shockey, G. A., "Evaluation of an Advanced Instrumentation System for Helicopter Rotors," Bell Helicopter Company, USAAMRDL Technical Report 71-72, Eustis Directorate, U.S. Army Air Mobility R&D Laboratory, Fort Eustis, Virginia, February 1972, AD740773.

flight tests were conducted at the BHT experimental flight test facility and consisted of three phases: basic operational maneuvers, nap-of-the-earth (NOE) maneuvers, and noise measurements.

The AH-1G helicopter's production 540 main rotor blades, gloved to house the instrumentation, were used. The aerodynamic instrumentation was installed at five radial stations. Upper and lower surface static pressures, stagnation point locations, and blade surface flow directions and magnitudes were continuously recorded. At the same time, blade bending moments at 10 radial stations, blade/hub vertical and inplane accelerations at 13 radial stations, and the dynamic response of the control system and fuselage were recorded. During the noise measurement portion of the test, five microphones were installed on the ship to record noise simultaneously with the previously described parameters. A total of 367 transducers were being recorded continuously and simultaneously, of which 314 were in the rotating system.

The Test Equipment section describes the blade gloving methods used to embed the instrumentation while maintaining a smooth airfoil and the rotor's structural characteristics. This section also details the instrumentation development and calibration. The flight conditions and parameters are given in the Testing section. The Test Results and Correlation section includes a comparison of a theoretical flight simulation with test data for five flight conditions. A portion of the acoustical analysis is included in this section, as well as samples of data from each type of transducer. The Data Description and Usage section describes the data available on digital tapes and its retrieval.

2. TEST EQUIPMENT

The test equipment consisted of an AH-1G helicopter, a set of modified main rotor blades, numerous types of transducers, a rotating FM frequency-division multiplex, a stationary FM multiplex and a shipboard tape deck. Additional equipment was used to conduct the acoustics tests and ground vibration tests.

2.1 HELICOPTER AIRFRAME

The airframe was a bailed U.S. Army AH-1G helicopter, Serial Number 20391. In addition to the standard equipment in the helicopter, the following items were installed:

- A 28-track, AR-728 tape recorder, a stationary multiplex, a telemetry (TM) transmitter and power supplies, all mounted on an equipment rack and installed in the ammo bay.
- Twenty-two accelerometers mounted on the fuselage.
- A rotating multiplex, mounted on the trunnion.
- A nose boom, mounted forward of the ship for airspeed measurements.
- A hot-wire fault indicator, mounted in the cockpit.
- Five microphones and mounting hardware, attached to the fuselage (during the acoustics portion of the flight test only).

Minor airframe modifications were necessary to facilitate instrumentation routing. These modifications were made in low-load or nonstructural areas to insure that the basic airframe structural integrity was not compromised.

A standard AH-1G main rotor hub was assembled with new parts plus a modified retention system. The modified retention system consisted of a pressed-in plug that increases the allowable centrifugal force to accommodate the additional blade weight. The stress analysis of the retention system is reported in Reference 6.

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[6]Collins, B. A., "Structural Design Report Main Rotor Hub and Blade AH-1G Operational Loads Survey," Bell Helicopter Company Report 299-099-753, Fort Worth, Texas, 15 May 1975.

2.2 MAIN ROTOR BLADES

2.2.1 Blade Modification

The "gloved blade" approach was used to maintain a structurally sound rotor and a smooth aerodynamic surface. All rotating transducers and associated wiring were embedded within the glove contour. The glove extended from the root-end doublers to the blade tip and consisted of an aluminum leading edge and thin fiberglass afterbody skins supported by a Nomex honeycomb core. This construction is sketched in Figure 1 and is similar to a construction that was previously tested by BHT. The leading edge abrasion strip was stretch-formed aluminum alloy, using the standard blade as the stretch fixture. The glove skins were made of pre-preg fiberglass cloth approximately 0.008 inch thick and bonded to 0.10-inch-thick Nomex honeycomb prior to installation on the blade. Five aluminum sleeves, in which the transducers and sensors were embedded, wrapped around the airfoil at the selected measurement stations. These sleeves mated with the leading-edge strip and the afterbody skins. The sleeves were roll-formed from aluminum sheet. Two aluminum attachment strips were bonded to the blade at each station and served as nut plates to which the sleeves were fastened. The five instrumentation stations were at 40, 60, 75, 86.4 and 95.5 percent radius.

The first operation in the gloving process consisted of bonding the aluminum leading-edge abrasion strip and the attachment strips to each blade. A film adhesive conforming to MIL-A-25463-2 was used, being the same type used in the assembly of the AH-1G blade. One of the blades was then strain gaged.

In a second operation, the fiberglass afterbody skins and core subassemblies were bonded to the blade with a 200°F curing adhesive, which meets the requirements of MMM-A-132. Aluminum caul boards, formed to the blade contour, assured that the correct airfoil was maintained. The bonding was performed under autoclave pressure. All wiring was routed to the hub in a spanwise groove between the leading-edge abrasion strip and the honeycomb panels. The wiring was then covered with a fairing compound to bring this area to final contour. After the blades were painted, the aluminum instrumentation sleeve assemblies, containing the absolute pressure transducers, the BLBs and the hot wire sensors were fastened to the attachment strips with flat-head machine screws. The final glove thickness was .130 inch. The trailing edge was extended 1.5 inches, terminating in a thickness of .10 inch. Table 1 gives the dimensions of the production AH-1G blade and the gloved instrumented blade.

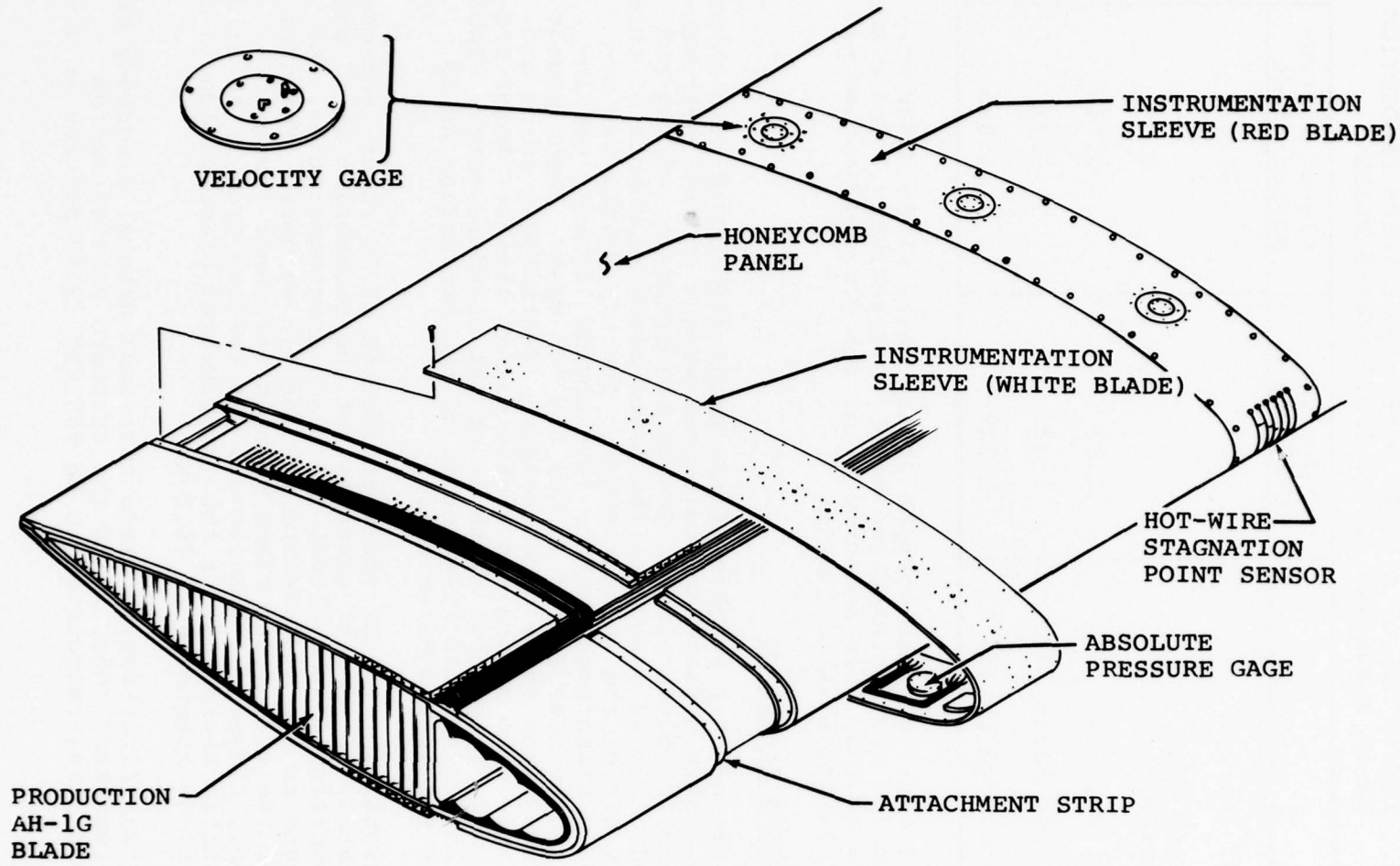


Figure 1. AH-1G rotor blade modification, wiring and typical instrumentation sleeve installation.

TABLE 1. COMPARISON OF AIRFOIL DIMENSION BETWEEN PRODUCTION AH-1G BLADE AND GLOVED INSTRUMENTED BLADE

	Production AH-1G Blade	Gloved Instrumented Blade
Chord, in.	27	28.63
Trailing edge extension, in.	-	1.50
Thickness, in.	2.52	2.78
Thickness ratio, %	9.33	9.71
Leading edge ratio, %	1.229	1.596

Figures 2 and 3 are photographs of the white blade under construction and the finished red blade, respectively. The blade's twist and contour were measured after the gloving process and were within established limits.

2.2.2 Blade Frequency

The midspan and tip weights of the production AH-1G main rotor were reduced to offset the additional weight of the instrumentation and the blade glove. The instrumentation, wiring and glove add about 40 pounds to the basic blade, and much of this weight is aft of the quarter chord. The tip weight was removed and a redesigned weight, five pounds lighter, was installed in the nose radius inside the 'C' spar. Eight pounds were removed from the midspan weight. Centrifugal force and mass balance were maintained within design limits. Rotor frequencies were very close to those of the standard rotor. Table 2 gives the calculated frequencies of the production AH-1G rotor and the instrumented rotor.

The torsional inertia of the instrumented AH-1G rotor increased approximately 40 percent over that of the production AH-1G due to the addition of the glove, the blade instrumentation, and the changes in the midspan and tip inertia weights. For this increase, the calculated blade clamped torsional frequency (blade only clamped at station 41) was reduced from 25 to 21.3 Hz. A static shake test of the instrumented blade yielded a clamped blade frequency of 20.0 Hz.

The rotating first-cyclic blade torsional natural frequency of the instrumented blade, using the standard control system spring rate, was calculated to be 950 CPM (2.93 per rev at 22°

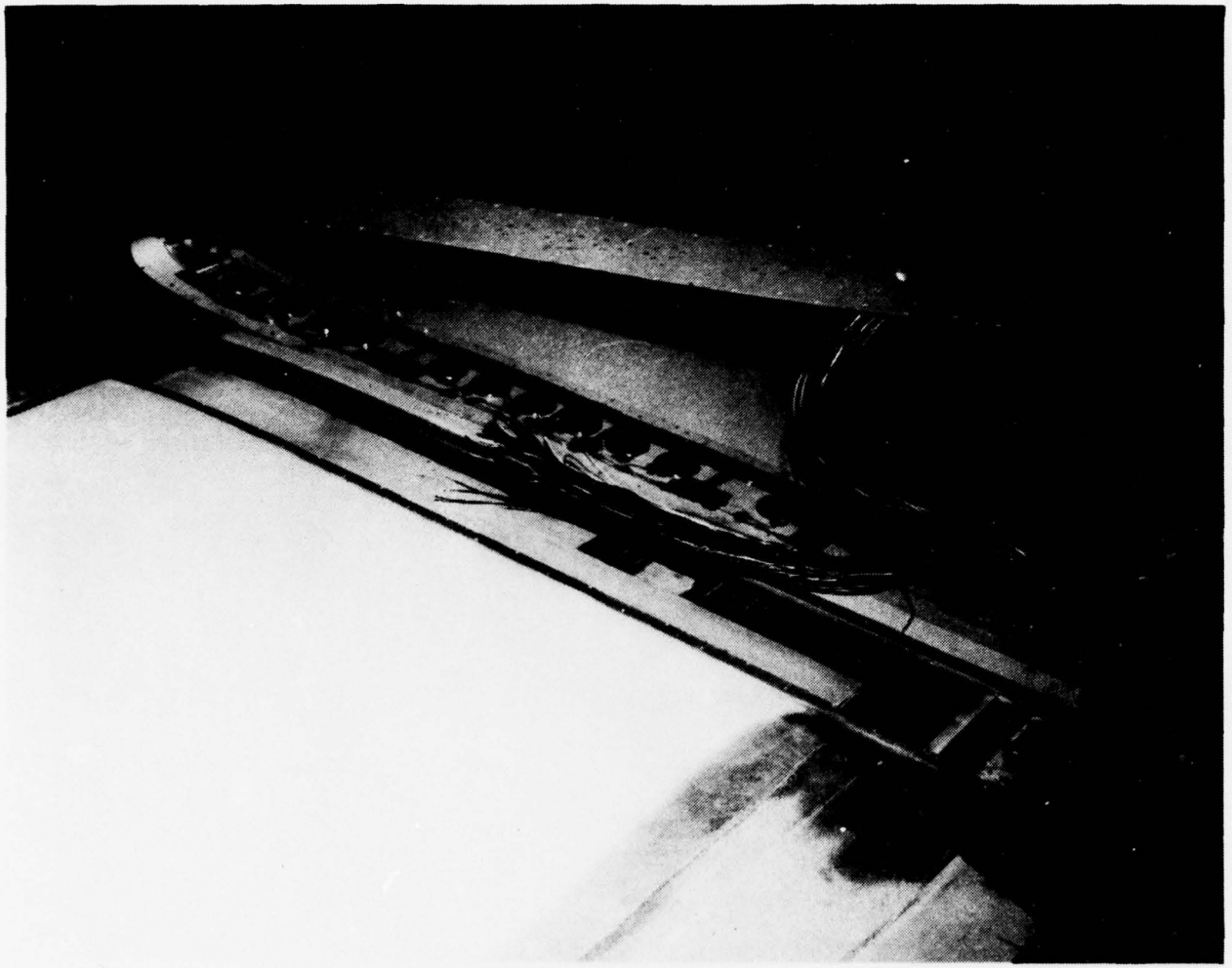


Figure 2. Unfinished gloved white blade with absolute pressure transducers installed in instrumentation sleeve, r/R = .864.

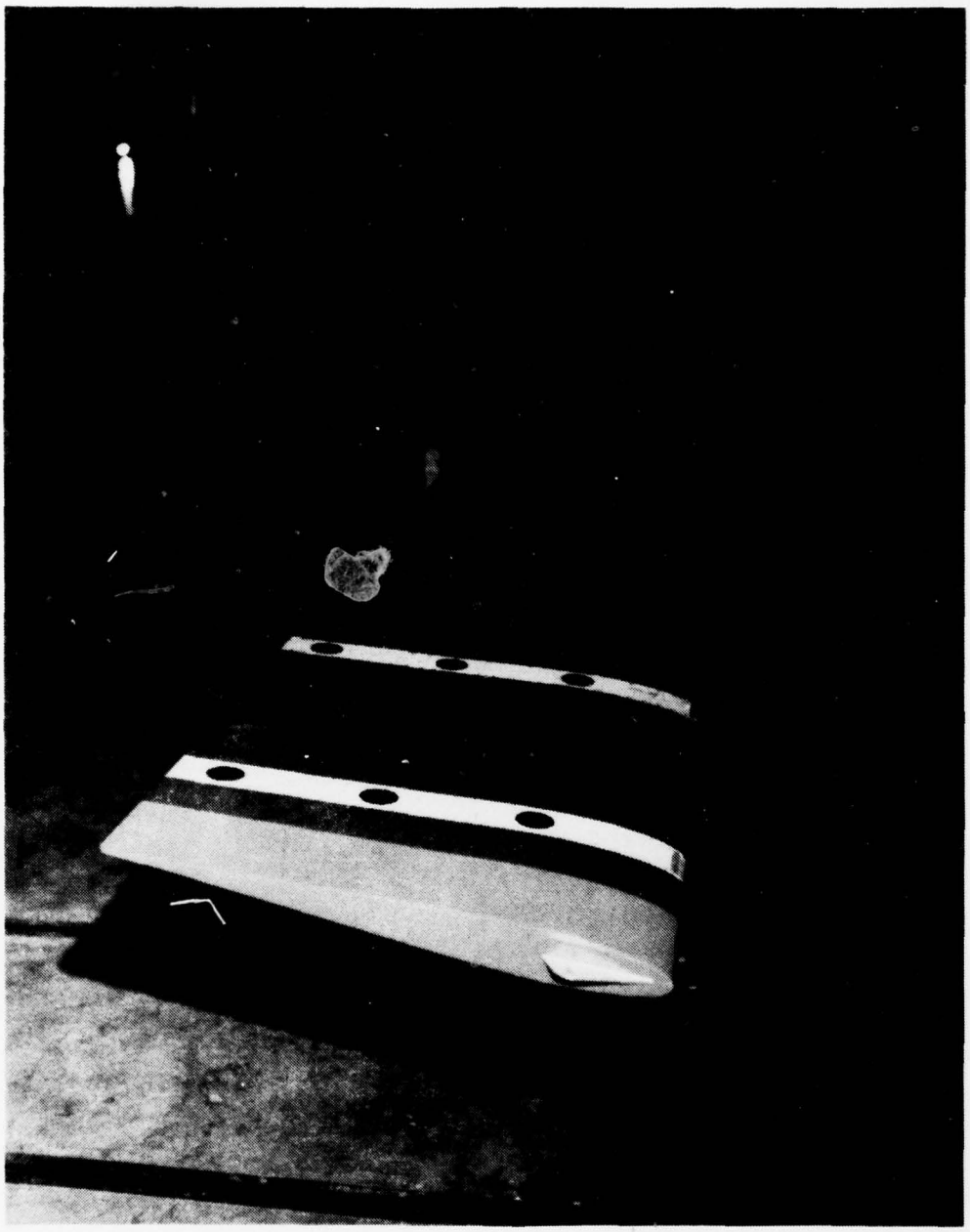


Figure 3. Finished gloved red blade with instrumentation installed.

collective pitch). Close coupling of this mode with the 2nd flapwise cyclic natural frequency was indicated. The same torsional mode for the production blade, at the same operating conditions, is calculated to be 1060 CPM (3.27 per rev at 22° collective pitch). The effective chordwise location of the cg was 24.1-percent chord. This was a radius-weighted cg and compares with 23.6-percent effective cg for the production blade, demonstrating satisfactory torsional response.

TABLE 2. COMPARISON OF PRODUCTION AH-1G AND INSTRUMENTED AH-1G MAIN ROTOR NATURAL FREQUENCIES (WITH TORSION COUPLING)

COLLECTIVE MODES	NATURAL FREQUENCY			
	Production AH-1G		Instrumented AH-1G	
	(CPM)	(Per Rev)	(CPM)	(Per Rev)
1st Flapwise Sym	340	1.05	360	1.11
2nd Flapwise Sym	850	2.62	830	2.56
3rd Flapwise Sym	1490	4.60	1500	4.63
4th Flapwise Sym	2700	8.33	2420	7.47
1st Inplane Asym	2090	6.45	2180	6.72
1st Coll. Torsion	1060	3.27	960	2.96
2nd Coll. Torsion	2870	8.86	2600	8.02
CYCLIC MODES				
1st Flapwise Asym	324	1.00	324	1.00
2nd Flapwise Asym	900	2.78	870	2.68
3rd Flapwise Asym	1430	4.41	1430	4.41
4th Flapwise Asym	2550	7.87	2380	7.34
1st Inplane Sym	490	1.51	500	1.54
1st Cyclic Torsion	1060	3.27	950	2.93
2nd Cyclic Torsion	2840	8.76	2490	7.68

Sym: Symetrical; Asym: Asymmetrical

2.2.3 Blade Inspections

Inspections and laboratory tests of the blades were conducted during assembly. The initial inspection of the blades included the following:

(1) Ultrasonic immersion inspection

(2) Reflectoscope - ultrasonic shear wave, thru transmission, and ring pattern

(3) Harmonic Bond Tester - eddy sonic vibrations

After removing eight pounds of the mid-span weight, the span was inspected with a borescope and checked with a reflectoscope. The borescope inspection verified that the cutter did not touch or damage the spar. The reflectoscope inspection verified that removal of the midspan weight did not cause debonding.

The fabrication and assembly of the blades were controlled by Bell Process Specifications regarding adhesive bonding. These include BPS 4402, 4380 and 4437. The specifications control cleaning methods, adhesive preparation, and bonding pressure and temperature. The detail part fabrication and blade modification followed the sequence called out by the Assembly Inspection Log (AIL). This document lists in detail all operations, required tools, and inspection intervals. Operators checked off each operation as it was accomplished. Inspection discrepancies were recorded in the AIL on an Assembly Inspection Discrepancy Report (AIDR) sheet. An engineering representative dispositioned all discrepancies for an acceptable rework method. All AIDR items were given final acceptance via a Manufacture Discrepancy Report (MDR) at the end of the work. A customer representative and engineering and quality representative gave final acceptance to the MDR. The AILs, which include the AIDRs, MDRs and inspection appraisals, remain with the blades throughout their time in service and are available for review.

Peel tests were performed on the aluminum to aluminum bond and the honeycomb and fiberglass bond. All tests showed satisfactory peel strengths. The aluminum to aluminum bond tests are documented in the AILs; the honeycomb and fiberglass bond tests are documented in Reference 7.

2.3 ELECTRONICS

A block diagram of the instrumentation system is shown in Figure 4. A brief description of how it functions is presented in the following paragraph. Subsequent paragraphs discuss the transducers and associated equipment that were used in the measurement of blade absolute pressure, flow velocity, stagnation point location, acceleration, bending moment, fuselage response and vehicle performance.

Referring to Figure 4, a basic system power source in the ammo bay supplies power through the slip ring to the rotating,

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[7]Shockey, G. A., "Flight Safety Data for AH-1G Operational Loads Survey," Bell Helicopter Company Report 299-099-752, Fort Worth, Texas, 9 May 1975.

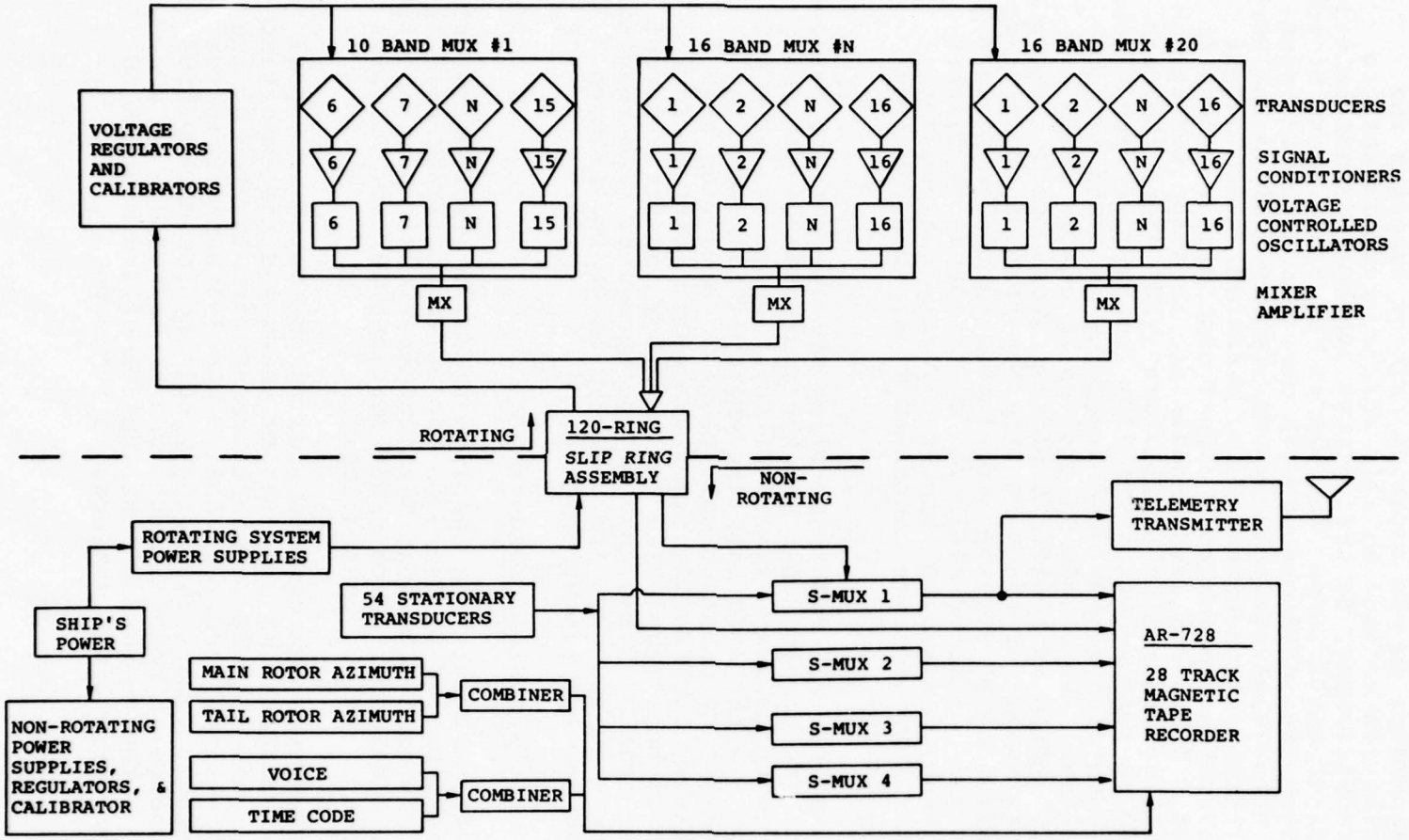


Figure 4. Block diagram of Rotorcraft Environment Test Instrumentation (RETI).

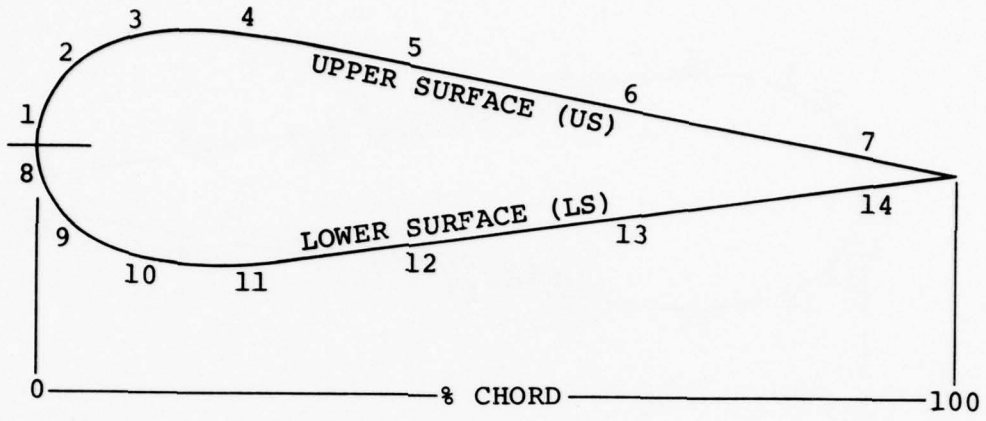
trunnion-mounted, electronics package. A precision voltage regulator-calibrator in the rotating package supplies the required excitation voltage to all rotating transducers, to the signal conditioners, to the voltage controlled oscillators and to the mixer amplifiers. The blades and other parts of the rotating system are instrumented with numerous types of transducers that produce electrical outputs proportional to the aerodynamic or structural phenomena being measured. Each output from a transducer is routed to a signal conditioner, where it is normalized. The normalized signals are then applied to the inputs of voltage-controlled oscillators (VCO) where the data are converted to frequencies. The VCOs are grouped into groups of sixteen, each with an assigned frequency band and a unique center frequency. The groups of sixteen frequency bands are then lineraly summed in a mixer amplifier whose output frequency spectrum contains all of the data from the sixteen transducers. A module consisting of sixteen signal conditioner amplifiers, sixteen VCOs and one mixer amplifier constitutes one sixteen-band FM frequency division multiplex. Twenty independent sixteen-band multiplexes are contained within the rotating electronics package.

The FM outputs from all twenty rotating multiplexes are carried from the rotor to the ammo bay via the mast-mounted slip-ring assembly. Twenty separate tracks of the twenty-eight track tape recorder, in the ammo bay, are employed to record the data from the twenty rotating multiplexes. Data from the fuselage-related, nonrotating items are multiplexed by four similar sixteen-band mudules in the ammo bay and are recorded on four other tracks of the AR-728 tape recorder. The remaining tracks of the tape recorder are used for recording azimuth pulses, voice log and time-code data.

2.3.1 Absolute Pressure Transducers

One hundred ten subminiature absolute-pressure transducers are used to measure static pressure on the upper and lower airfoil surfaces. Figures 5-a through 5-e identify static port locations and pressure ranges for white blade stations 40, 60, 75, 86.4 and 95.5 percent radius, respectively.

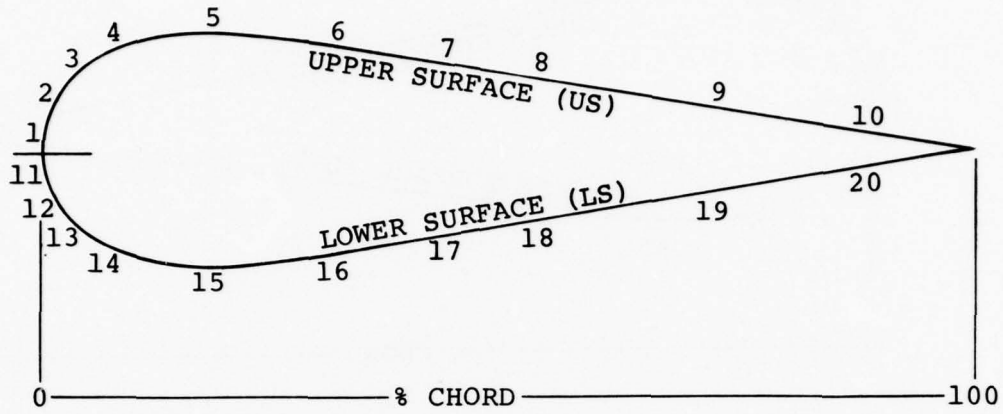
Pressure transducers are concentrated at the outboard radial stations to record the major pressure peaks and the important shock formations. The 52 pressure transducers located at the two outboard stations are recorded on the 400-Hertz response channels. Hence, events occurring within approximately five degrees of change in rotor azimuth can be measured. At a given station, the chordwise distribution of transducers on the upper and lower blade surfaces is the same.



% CHORD	US	LS	MAXIMUM ANTICIPATED PRESSURE IN PSI * US	LS
1	1	8	20	15
3	2	9	20	15
8	3	10	20	15
25	4	11	10	10
45	5	12	5	5
70	6	13	5	5
92	7	14	5	5

* ±Deviation from atmospheric pressure

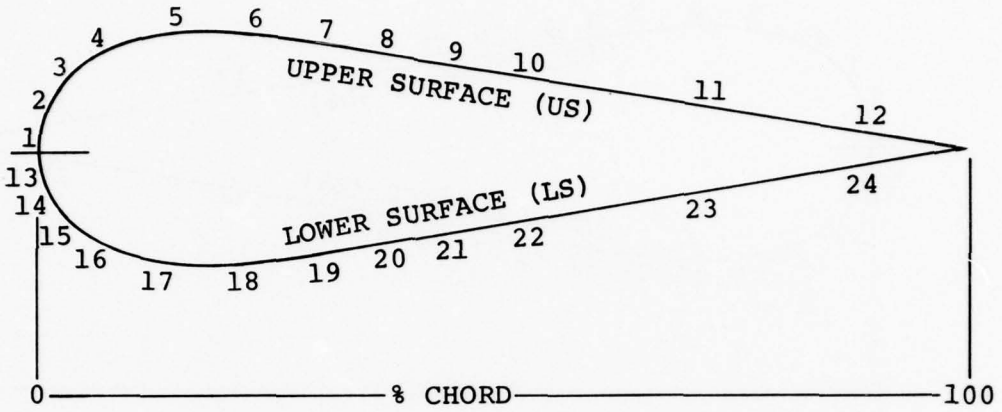
Figure 5-a. Main rotor blade absolute pressure transducer locations, pressure ranges, and identification, r/R = .40.



% CHORD	US	LS	MAXIMUM ANTICIPATED PRESSURE IN PSI * US	LS
1	1	11	20	15
3	2	12	20	15
8	3	13	20	10
15	4	14	20	10
25	5	15	10	5
35	6	16	10	5
45	7	17	10	5
55	8	18	5	5
70	9	19	5	5
92	10	20	5	5

* ±Deviation from atmospheric pressure

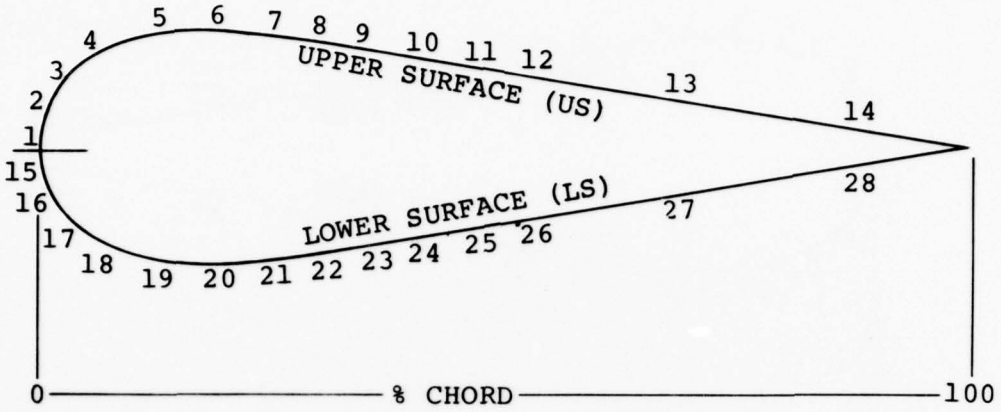
Figure 5-b. Main rotor blade absolute pressure transducer locations, pressure ranges, and identification, r/R = .60.



% CHORD	US	LS	MAXIMUM ANTICIPATED PRESSURE IN PSI *	
			US	LS
1	1	13	20	15
3	2	14	20	15
8	3	15	20	10
15	4	16	20	10
20	5	17	20	10
25	6	18	15	5
35	7	19	15	5
40	8	20	15	5
45	9	21	10	5
55	10	22	10	5
70	11	23	5	5
92	12	24	5	5

* ±Deviation from atmospheric pressure

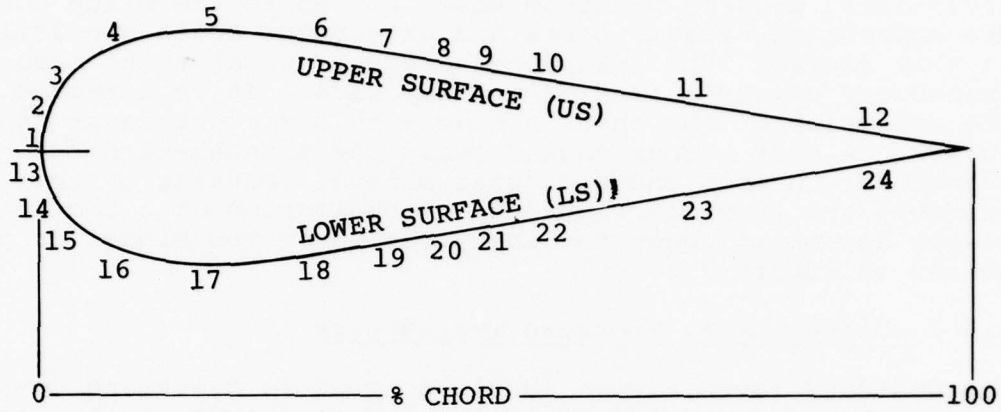
Figure 5-c. Main rotor blade absolute pressure transducer locations, pressure ranges, and identification, r/R = .75.



			MAXIMUM ANTICIPATED PRESSURE IN PSI *	
% CHORD	US	LS	US	LS
1	1	15	20	15
3	2	16	20	15
8	3	17	20	10
15	4	18	20	10
20	5	19	20	10
25	6	20	15	5
35	7	21	15	5
40	8	22	15	5
45	9	23	15	5
50	10	24	15	5
55	11	25	15	5
60	12	26	10	5
70	13	27	10	5
92	14	28	5	5

* ±Deviation from atmospheric pressure

Figure 5-d. Main rotor blade absolute pressure transducer locations, pressure ranges, and identification, r/R = .864.



% CHORD	US	LS	MAXIMUM ANTICIPATED PRESSURE IN PSI * US	LS
1	1	13	20	15
3	2	14	20	15
8	3	15	20	10
15	4	16	20	10
25	5	17	15	5
35	6	18	15	5
40	7	19	15	5
45	8	20	15	5
50	9	21	15	5
55	10	22	10	5
70	11	23	10	5
92	12	24	5	5

* ±Deviation from atmospheric pressure

Figure 5-e. Main rotor blade absolute pressure transducer locations, pressure ranges, and identification, r/R = .955.

Aluminum sleeve assemblies, mounted around the contour of the blade at each of the four stations, house the transducers. Each assembly consists of three main parts: outer sleeve, a transducer chamber, and a gasket. The outer sleeve is a piece of 0.025-inch, 2024-T3 aluminum sheet rolled to the blade contour. The appropriate static ports and attachment holes are drilled in this sleeve. The transducer chamber contains the pressure transducer cavity milled on the top side. It is attached to the underside of the outer sleeve with six countersunk machine screws. A soft rubber gasket seals the attachment between the transducer chamber and the outer sleeve. Details of this assembly are shown in Figure 6. A photograph of a completed sleeve assembly, ready for installation on the blade, is presented in Figure 2.

2.3.2 Differential Pressure Transducers

The boundary layer button (BLB), a pressure measuring device, is used to measure flow direction and magnitude on the upper and lower blade surfaces. Six BLBs are located at each of the five selected radial stations. They are positioned at 30-, 60- and 90-percent chord locations as sketched in Figure 7. Anticipated pressure ranges are shown.

The BLB consists of two total pressure tubes and a static port. Each of the total pressure tubes is connected to the top of a diaphragm of a temperature-compensated, subminiature differential pressure transducer. The backsides of the diaphragms of the two transducers are connected to a common static port. Hence, the output of each transducer is dynamic pressure. Using the dynamic pressure, the velocity magnitude can be calculated. Each sensor is calibrated for an included flow-direction angle of 32 degrees. Analyses indicate that the flow direction excursion will exceed the linear range of the BLB over certain azimuth ranges for some flight speeds and spanwise locations. This was verified when the units were calibrated. The BLB can be rotated and selected flights repeated, if necessary. They were not rotated during the test.

The sensor's two differential pressure transducers are installed in a stainless-steel housing. The housing consists of a base plate, a main body, a gasket, and a total-tube cover plate. The main body contains the pressure transducer cavities milled on the top and the static interconnecting ports milled on the bottom. The base plate is bonded to the lower side of the main body and serves to close off the static ports. The total-tube cover plate contains a single static port and two Inconel total tubes silver-soldered to it. The tube orifices are located 90 degrees to one another, and the static port is located at the apex of the triangle formed by the total tubes. The total-tube cover plate is bolted to the main body with six flat-head machine

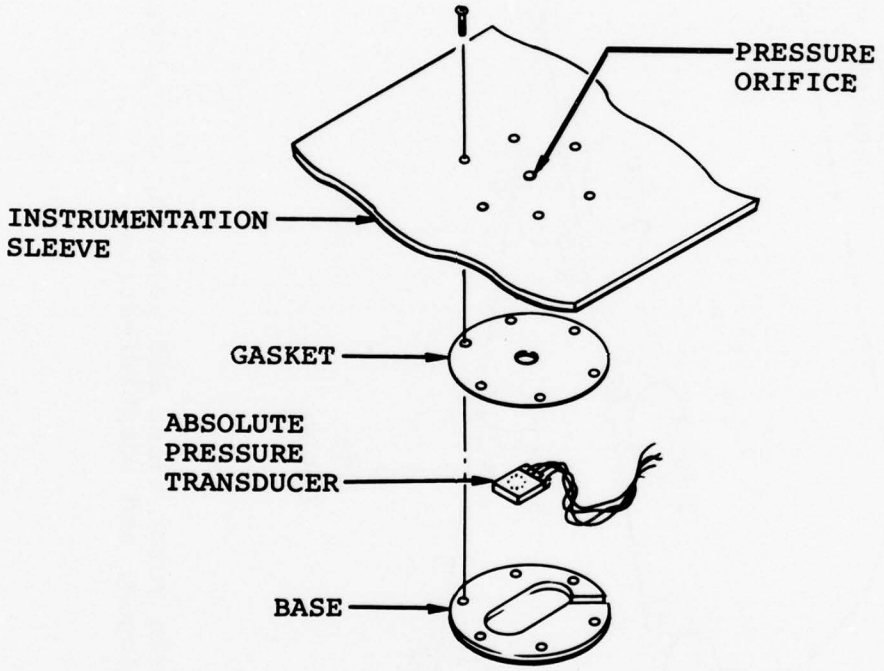


Figure 6. Exploded view of absolute pressure transducer installation.

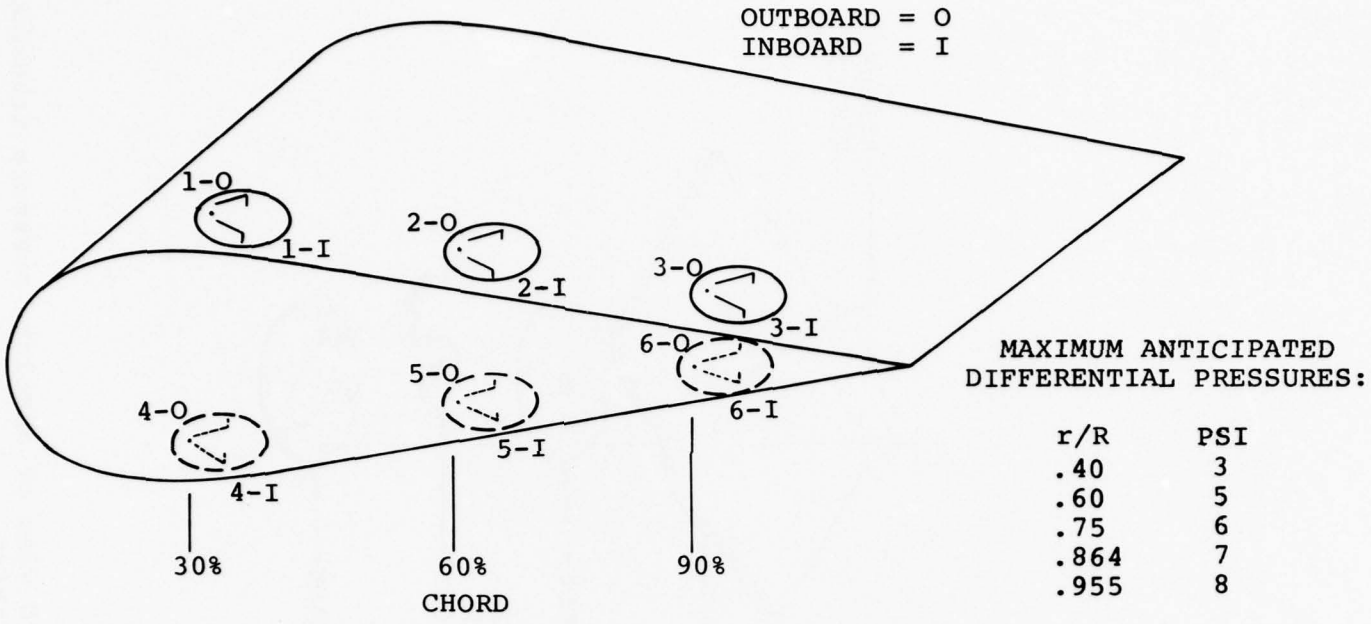


Figure 7. Main rotor blade BLB velocity gage locations, pressure ranges, and identification.

screws. A soft rubber gasket between the cover plate and the main body seals the sensor assembly. Details of this assembly are shown in Figure 8. Figure 9 is a photograph of a BLB sleeve assembly installed on the red blade.

2.3.3 Miniature Accelerometers

Miniature, temperature-compensated piezoresistive accelerometers are used to measure beamwise and chordwise blade motions directly. The accelerometers are located at the following radial stations: 3.5, 11, 16, 37.5, 60, 81.5, 103, 132, 155.8, 184.8, 238.1 and 263 inches. Attachment is made directly to the blade by epoxy bonding. The accelerometer's small size, 0.12 in. x 0.12 in. x 0.75 in., permits it to be faired in with plastic filler material so that there is no physical discontinuity in the blade glove surface. Figure 10 shows the installation of a typical blade accelerometer prior to final fairing and painting.

2.3.4 Strain Gages

Standard Micro-Measurements EA-13 and EA-06 strain gages are used to measure blade bending moments and the strain in mechanical components such as the rotor shaft, pitch links, and grip. The blade was strain gaged, including redundant spare gages, prior to the installation of the blade glove. Spare, redundant gages were installed at each blade station because the glove made replacement impractical. Table 3 shows the location of the blade and yoke strain-gage-instrumented data items.

Other data items that were measured with strain gages are listed below:

1. Collective boost tube axial force
2. Lateral cyclic boost tube axial force
3. Fore-and-aft cyclic boost tube axial force
4. Lift link axial force
5. Main rotor red pitch link axial force
6. Main rotor white pitch link axial force
7. Red drag brace axial force
8. Main rotor mast torque
9. Main rotor mast parallel bending, station 6.5
10. Main rotor mast perpendicular bending, station 5.0
11. Main rotor mast parallel bending, station 18.5
12. Main rotor mast perpendicular bending, station 18.5
13. Main rotor pitch horn beam bending, station 4.0
14. Main rotor pitch horn beam bending, station 16.0
15. Red grip beam bending, station 37.5
16. Tail rotor mast torque

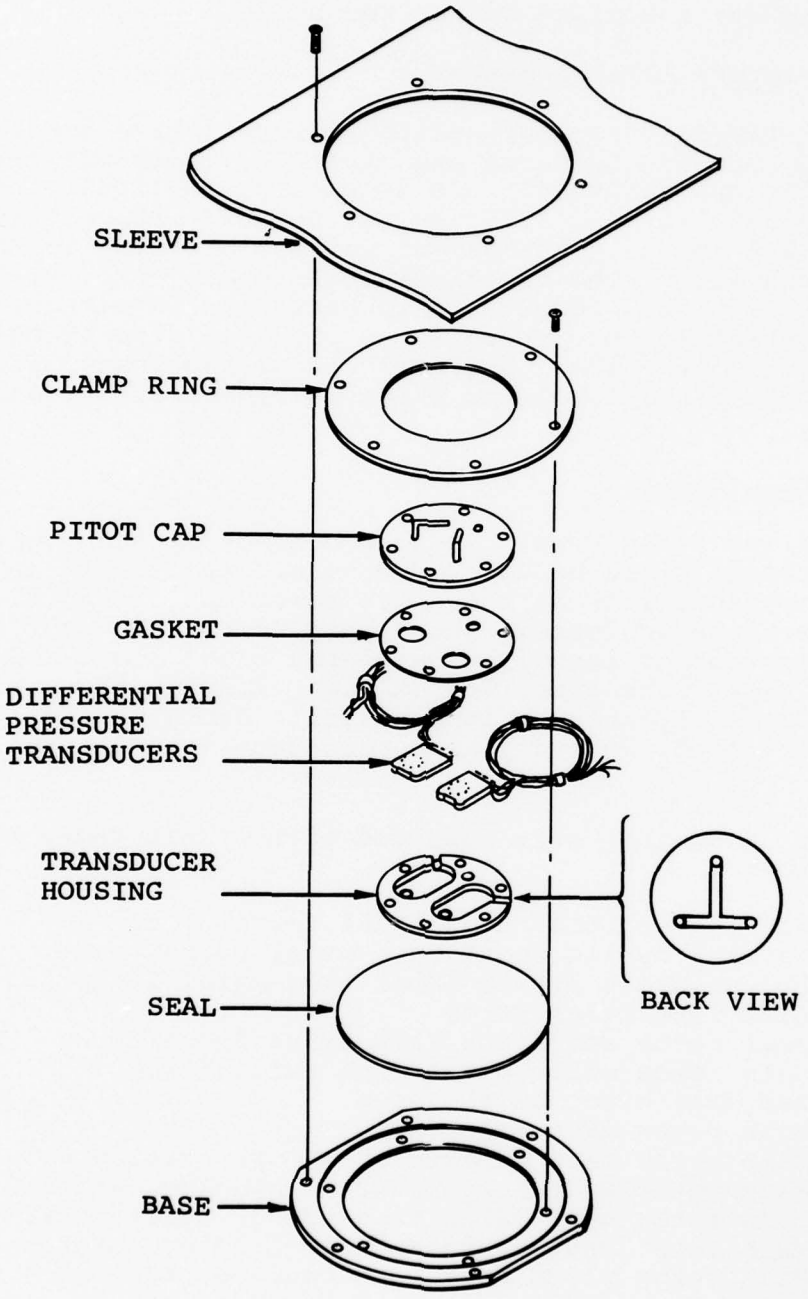


Figure 8. Exploded view of BLB velocity gage using two differential pressure transducers.

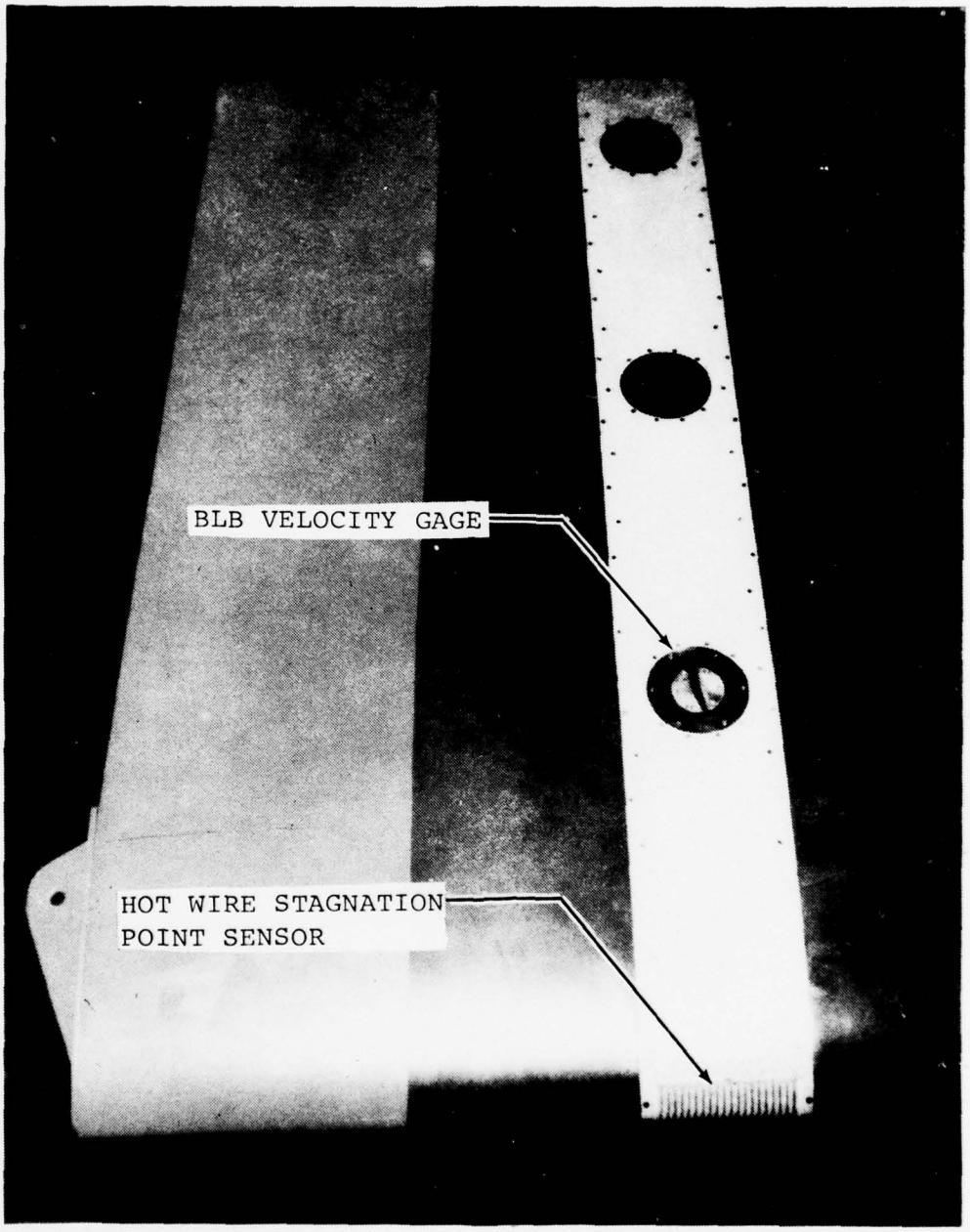


Figure 9. BLB velocity gage and hot-wire stagnation point sensor installed in instrumentation sleeve, red blade.

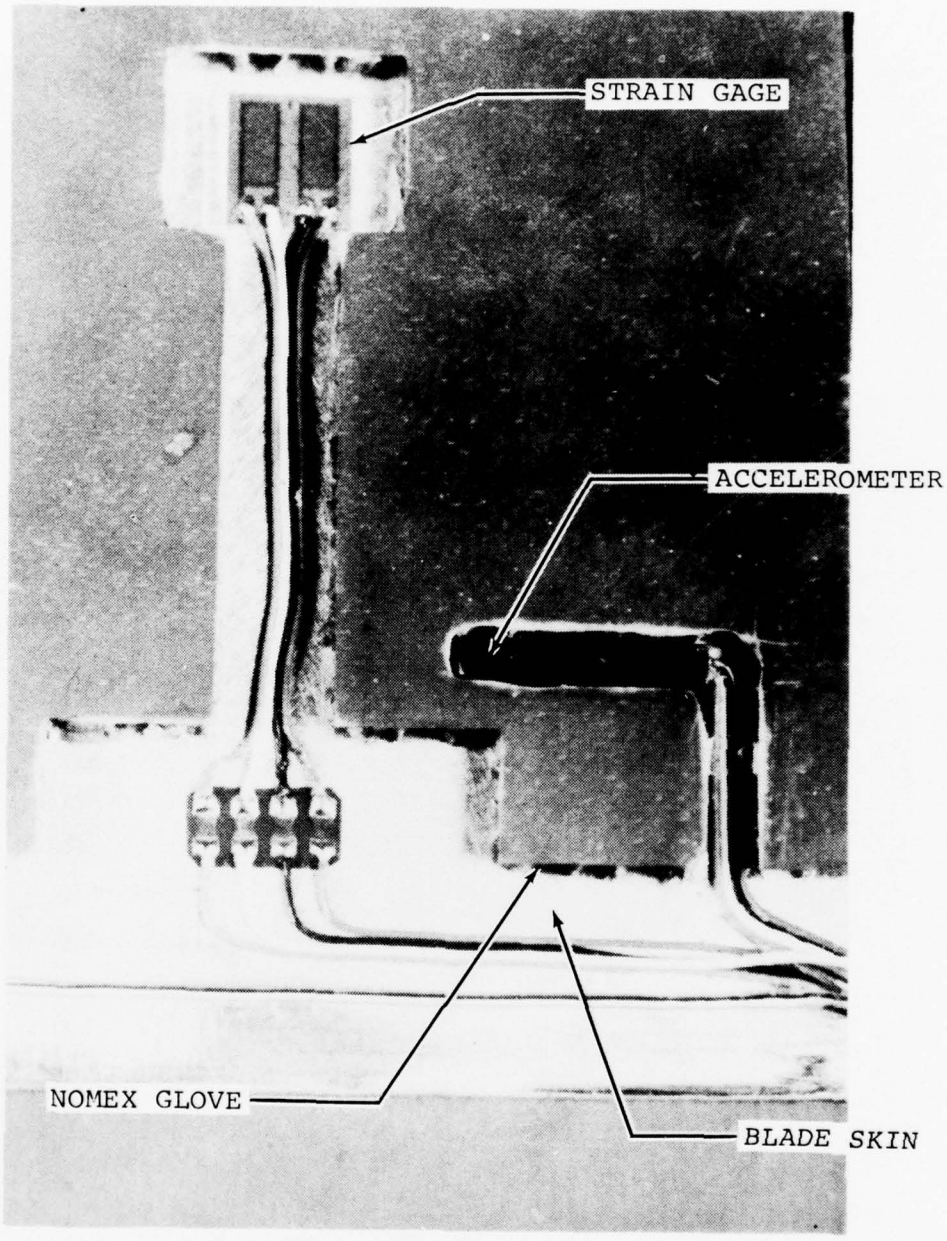


Figure 10. Blade accelerometer, typical installation prior to encapsulation, fairing and painting.

TABLE 3. LOCATION OF BLADE AND YOKE STRAIN GAGES

Radial Location		Beam Bending	Chord Bending	Blade Torsion
Percent Span	Station (Inches)			
2.3 } Yoke	6.0	XX	XX	XX (Yoke, each side)
4.5 }	11.5	X	X	
20	60.0	X	X	
30	81.5	X	X	X
40	103.0	X	X	
50	132.0	X	X	X
60	155.8	X	X	
70	184.8	X	X	X
80	212.3	X	X	
90	238.1	X	X	X

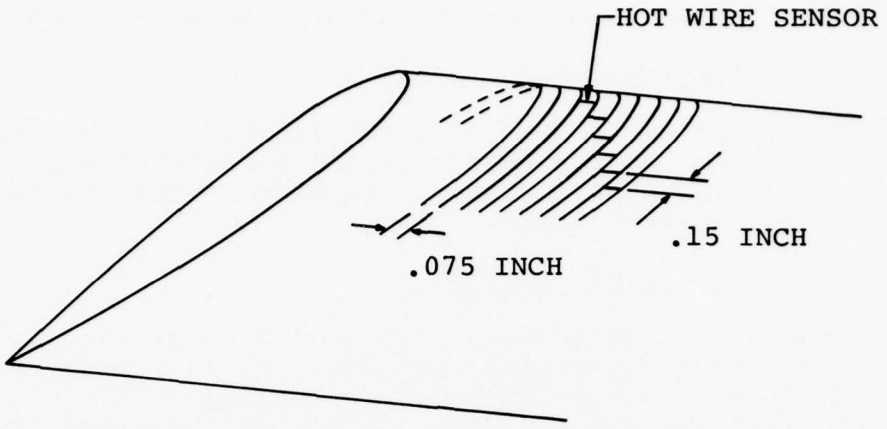
2.3.5 Stagnation Point Instrumentation

Chordwise movement of the stagnation point along the airfoil's leading edge surface is measured through the use of eighty hot-wire sensors. Table 4 lists the chordwise surface contour positions of each hot wire element at the same five radial stations at which BLBs are located. A higher density of hot wires is placed at the outboard stations, as noted in Table 4, to achieve greater resolution at low angles of attack. The hot-wire sensor is a temperature-differentiating device consisting of from 10 to 19 elements. The individual elements are mounted on a flexible, 0.004-inch-thick printed circuit that is bonded to the leading edge of the instrumentation sleeve, as shown in Figure 9. The printed circuit layout is a series of 0.020-inch-wide lines spaced 0.110 inch apart with the 0.020 lines running chordwise. Hot-wire elements are soldered normal to the 0.020 lines in a stair-step fashion at the chordwise countour positions noted in Table 4. Each hot wire is a 0.110-inch length of special alloy Balco wire of 0.0012-inch diameter. Figure 11 shows the layout of the hot wire sensor and its installation on the leading edge of the rotor.

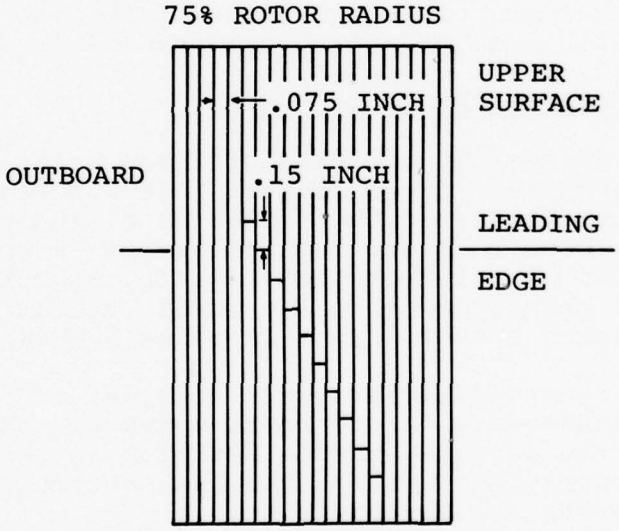
At each station, the hot-wire elements are electrically in series, so that the circuit is energized by a single constant

TABLE 4. LOCATION OF HOT-WIRE ELEMENTS

		r/R				
		.40	.60	.75	.855	.955
Contour Position, Inches	UPPER SURFACE	(*)	(*)	(*)	(*)	(*)
		.36 (10)				
		.24 (9)	.24 (16)	.24 (16)	.24 (19)	.24 (19)
		.12 (8)	.12 (15)	.15 (15)	.12 (18)	.12 (17)
		0.0 (7)	0.0 (14)	0.0 (14)	0.0 (16)	0.0 (15)
	LOWER SURFACE	.12 (6)	.12 (13)	.12 (13)	.12 (14)	.12 (13)
		.24 (5)	.24 (12)	.24 (12)	.24 (12)	.24 (12)
		.36 (4)	.36 (11)	.36 (11)	.36 (11)	.36 (11)
		.48 (3)	.48 (10)	.48 (10)	.48 (10)	.48 (10)
		.60 (2)	.60 (9)	.60 (9)	.60 (9)	.60 (9)
		.72 (1)	.72 (8)	.72 (8)	.72 (8)	.72 (8)
			.84 (7)	.84 (7)	.84 (7)	.84 (7)
			.96 (6)	.96 (6)	.96 (6)	.96 (6)
			1.08 (5)	1.08 (5)	1.08 (5)	1.08 (5)
			1.20 (4)	1.20 (4)	1.20 (4)	1.20 (4)
			1.32 (3)	1.32 (3)	1.32 (3)	1.32 (3)
			1.44 (2)	1.44 (2)	1.44 (2)	1.44 (2)
			1.56 (1)	1.56 (1)	1.56 (1)	1.56 (1)
Number (*) is Element Number Referred to on Set-up Sheet.						
No. of Hot Wires		10	16	16	19	19
Approximate Angle-of-attack Range		-7° to +10°	-4° to +20°		-4° to +20°	



SKETCH OF HOT WIRE ANEMOMETER INSTALLATION



LOCATION OF HOT WIRE SENSORS

Figure 11. Installation and location of leading edge hot-wire anemometer.

voltage source. Voltage drops across individual hot-wire elements provide the output signal. In operation, the wire closest to or at stagnation heats rapidly, producing a large voltage increase, while other wire voltages are decreased by cooling flow, thus accentuating the stagnation wire signal.

2.3.6 Acoustic Instrumentation

The instrumentation system was altered slightly for the acoustic testing part of the program, and a ground-based system of microphones and recording equipment was added. The following paragraphs discuss these items.

2.3.6.1 Airborne Acoustic System

Five microphones mounted in flow-aligning fairings were attached to the aircraft in a symmetrical pattern. Table 5 identifies the location of each. Microphones were located on the nose boom, on the left and right wings, and aft of the elevators. Figure 12 is a photograph of the microphone installed on the right side of the fuselage.

The conditioned signals were recorded by the on-board tape recorder using IRIG intermediate-band FM at a tape speed of 30 inches per second. This provided a frequency response of DC to 10 kHz with a signal-to-noise ratio of 46 dB RMS.

2.3.6.2 Ground-Based Acoustic System

The ground-based system consisted of three tripod-mounted microphones at standing-ear level located five hundred feet apart on a line perpendicular to the flight path, and an Ampex 200 tape recorder which recorded the following: a telemetered data status code signal from the aircraft, azimuth and elevation signals from a prototype optical aircraft tracker, and a voice track. The ground system layout is shown in Figure 13.

Time code and recorded numbers were recorded on the ground-based system tapes subsequent to the tests using the same record numbers as in the airborne system but with an unrelated time code. Time correlation between the two systems was provided through the common status-code signal.

B&K 4145 one-inch-diameter microphones on 2619 preamplifiers with UA0207 wind screens were used. B&K 2801 microphone power supplies were powered by a remotely located Honda AC generator. The signals were conditioned by a multichannel audio amplifier with 10-dB-per-step-gain adjustments. The audio signals were recorded on tracks 1, 3, and 5 of an Ampex AR200 14-track tape deck powered by an aircraft Ni-Cad battery. IRIG intermediate-band FM electronics and a tape speed of 30 inches per second

TABLE 5. AIRBORNE SYSTEM MICROPHONE LOCATIONS

Microphone Number	Recorder Track Number	Microphone Locations			
		Nominal Position	Station (Inches)	Butt Line (Inches)	Water Line (Inches)
1	1	Yaw Boom	Fuselage 1	0	59
2	3	Left Wing	Fuselage 189	-78	58
3	5	Left Elevator	Tailboom 168.3	-20.5	74
4	7	Right Elevator	Tailboom 168.3	20.5	74
5	9	Right Wing	Fuselage 189	78	58

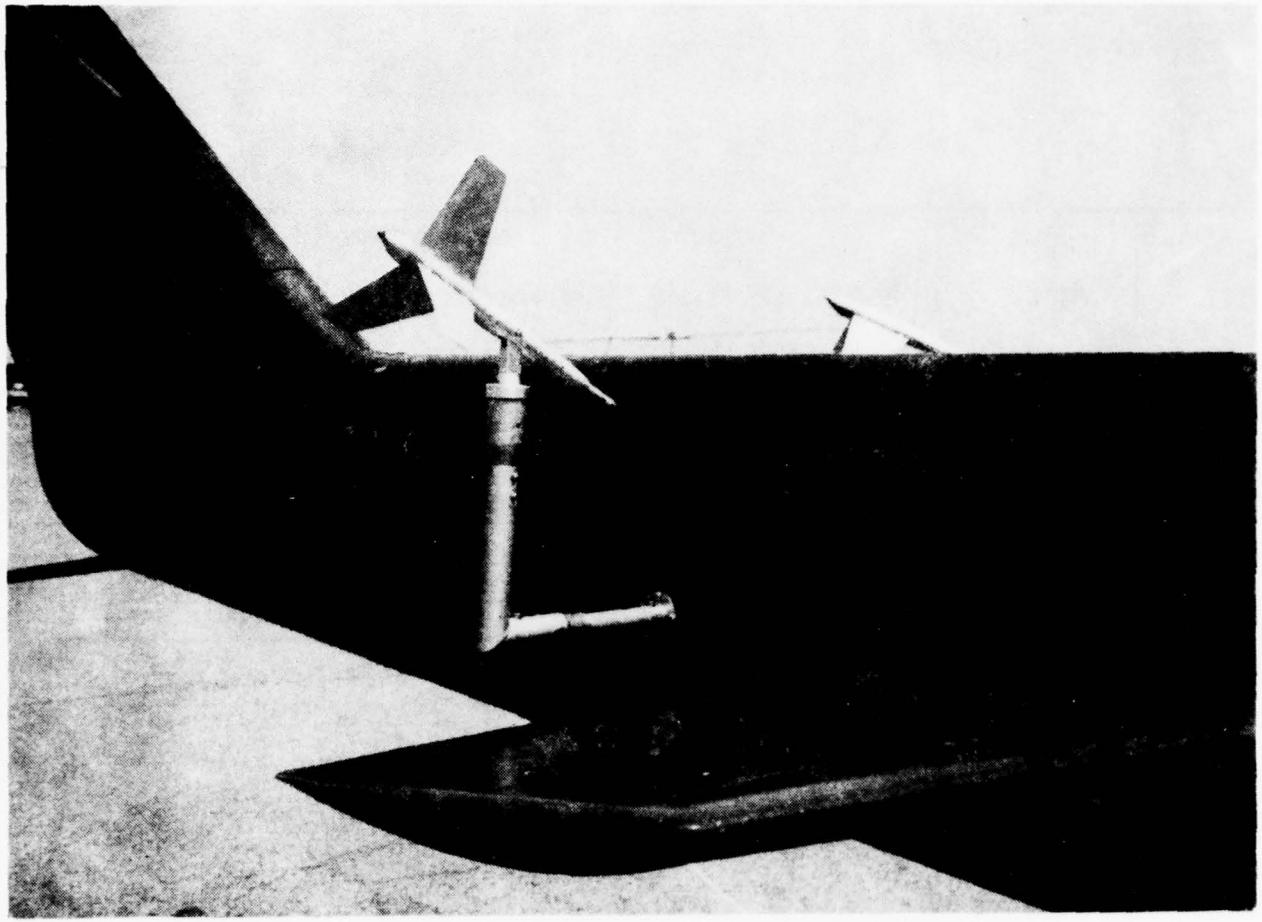


Figure 12. Microphone mounted in flow aligning fairing.

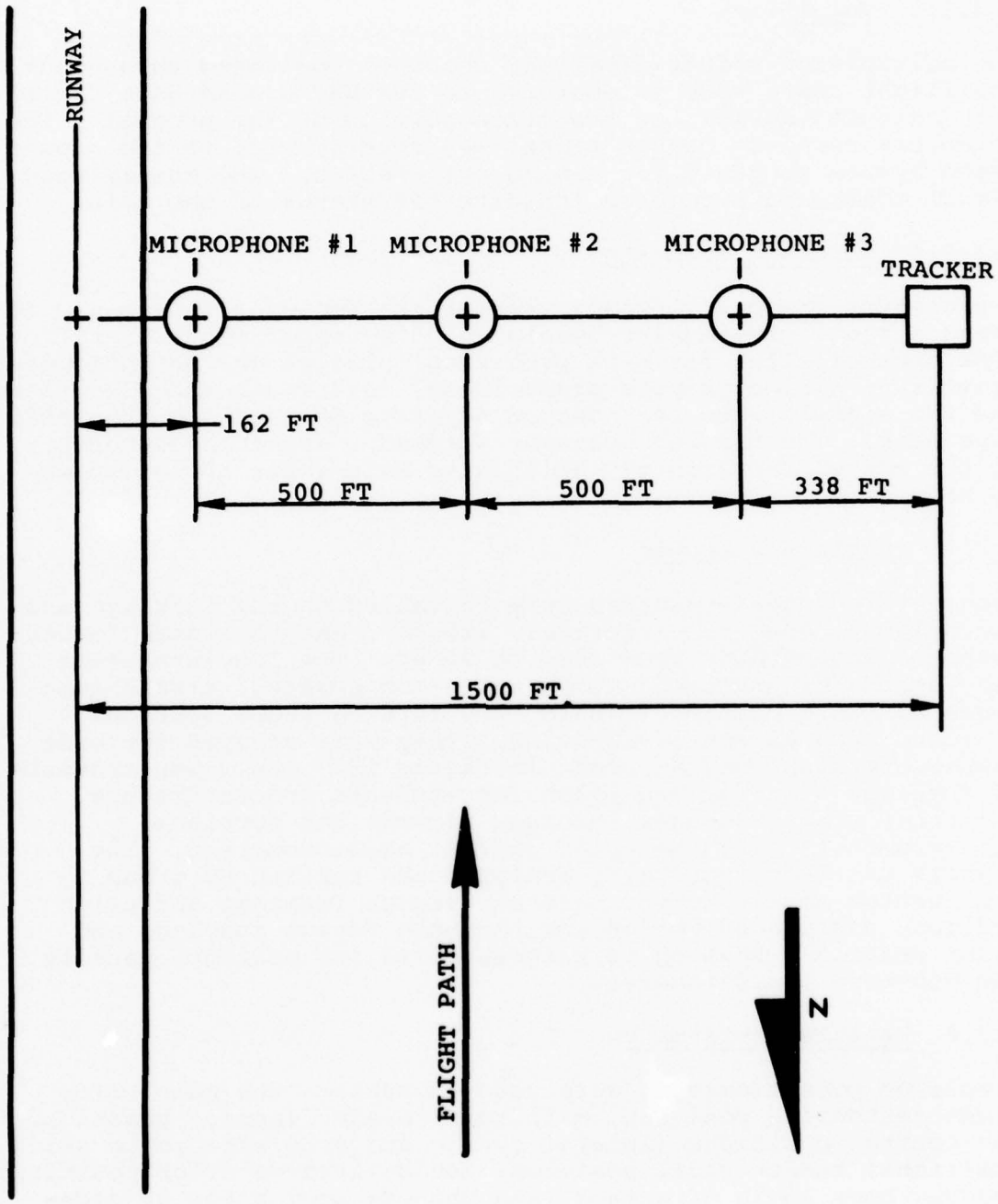


Figure 13. Ground based microphone system layout.

gave a frequency response of DC to 10 kHz with a signal-to-noise ratio of 46 dB RMS.

2.3.6.3 Telemetry

The multiplexed safety-of-flight channels monitored throughout the flight tests were telemetered to the BHT Ground Data Center and monitored during the acoustics portion of the program. The telemetry receiver output signal was sent by wire to the ground-based system recorder for timing correlation. The multiplexed signal contained a code to indicate the status of the data.

2.3.6.4 Aircraft Tracking

A prototype optical aircraft tracker was employed in the ground-based system. The device consisted of a tripod-mounted, rifle-type optical sight bar with precision, single-turn potentiometers providing voltage outputs proportional to azimuth and elevation. The two signals were recorded on separate FM tracks on the AR200 tape deck. The tracker operator aligned a sight and V-notch on the swivel bar with the helicopter main-rotor hub as shown in Figure 14.

2.3.7 Fuselage Response

Twenty-three accelerometers were installed on the fuselage and the pylon to determine vertical, lateral, and torsional forced-response mode shapes from zero to 50 Hz. The accelerometers were standard, unbonded, temperature-compensated, strain-gage types and were mounted to hard structure to avoid spurious motions, such as panel vibration. They were grouped for mode shape determination, as shown in Figure 15. One group consists of fuselage vertical and pylon fore-and-aft accelerometers. The other group includes fuselage lateral and torsional accelerometers plus the pylon lateral accelerometers. The signals can be harmonically analyzed and related by group to show vector amplitude per harmonic versus fuselage and pylon station, and phased motion per harmonic versus fuselage and pylon station. Phasing is referenced to one station, usually the hub-nose accelerometer.

2.3.8 Vehicle Performance

Precision potentiometers were used to measure the main rotor blade feathering position, main rotor blade flapping position, the control positions (lateral cyclic and fore/aft cyclic stick positions, rudder pedal position, and collective stick position), the yaw boom angle of attack, and the yaw boom angle of side-slip. Standard Humphry-type gyros measured the aircraft pitch, roll, and yaw attitude positions. The engine, main rotor, and gas generator rotational speeds were measured by recording the

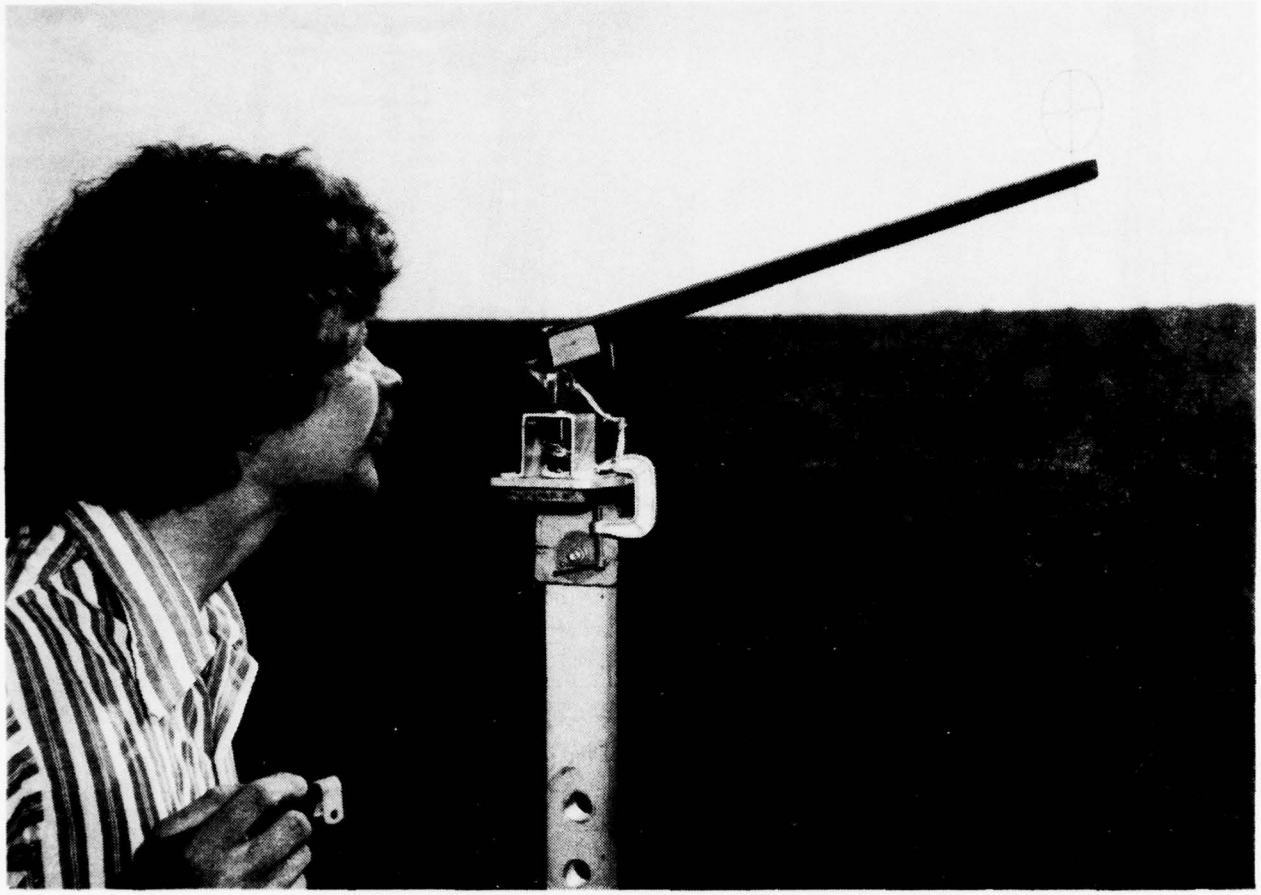


Figure 14. Prototype optical tracker.

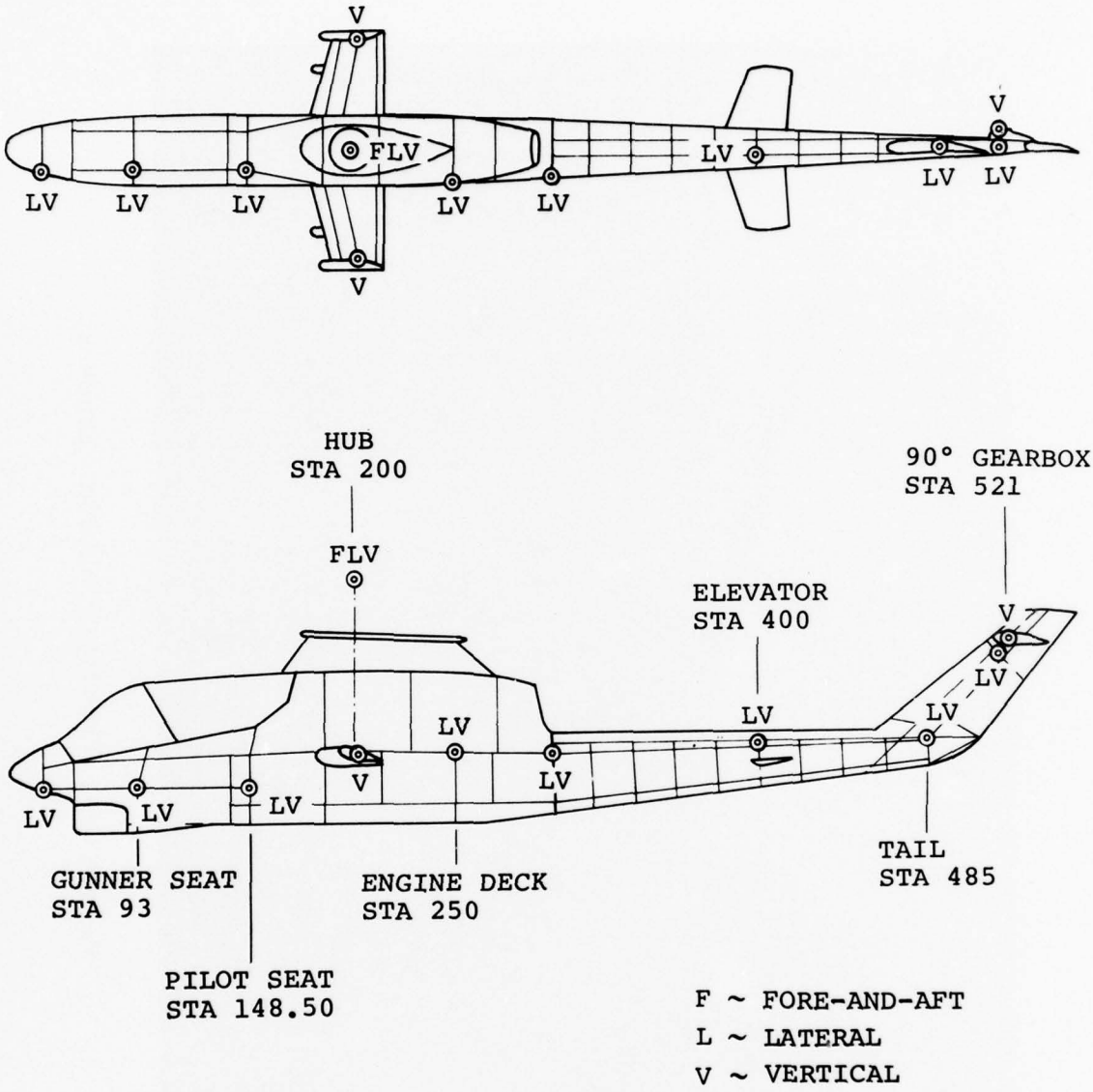


Figure 15. Hub and fuselage accelerometer locations.

frequency of the ship's tachometer generator, from which speed was derived.

The pressure altitude of the helicopter was measured using a 0- to 15-psia temperature-compensated transducer tied into the static reference port on the airspeed boom. (This boom's static pressure ties into the ship's panel instruments in place of the normal static port.) Temperature-compensated, unbonded, strain-gage differential pressure transducers measured the ship's engine differential torque pressure and the airspeed.

A shaft encoder measured rotor azimuth position. The encoder's output consists of a serial pulse train which was recorded directly. The tail and main rotor position pulses were combined to conserve tape tracks. The tail rotor position consists of a one-per-revolution pulse referenced to a known azimuth. Similarly, the main rotor position consists of an azimuth-referenced master pulse, plus a series of pulses at 256-per-revolution.

2.3.9 Transducer Test and Calibration

All transducers were visually inspected, functionally tested and calibrated at BHT prior to installation in the flight-test aircraft. The following items were of particular interest during this phase of testing: linearity, hysteresis, repeatability, output scale factor, thermal stability, bridge resistance, sensitivity to centrifugal force, zero offset, and conformance to external physical specifications. The calibration data are kept on permament record at BHT by serial number for each transducer.

Vendor test plans and other notes on calibrations are contained in Appendix A. Calibration factors and data item assignments of transducers are found in Appendix B, which contains the Detail Instrumentation Set-up Sheets and Calibration Record Information for each flight.

2.3.10 Rotating Electronics/Multiplex

The Rotating Electronics/Multiplex (R-MUX), mounted on top of the main rotor yoke, was devised because the quantity of wires from 314 rotating sensors would require an impossibly large and impractical slip-ring assembly. The R-MUX is shown in Figure 16. Only 77 wires are required to interface the R-MUX with the stationary system in the ammunition bay. This equipment, when combined with a reliable 120-ring slip-ring assembly, permitted considerable paralleling of critical slip rings to further increase slip-ring reliability. Two other factors enchance slip-ring performance in this system. Filtering and regulation of critical excitation voltages are accomplished

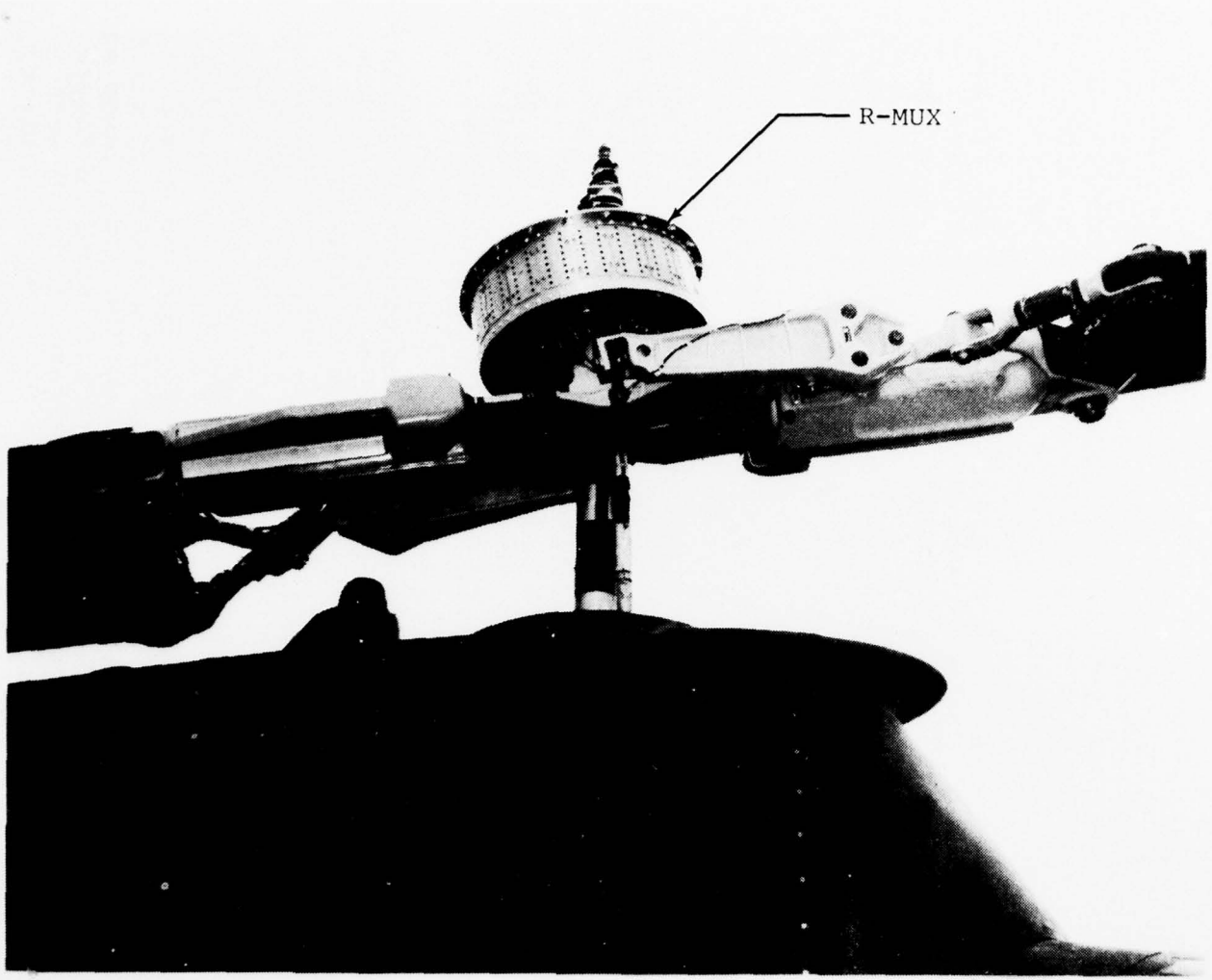


Figure 16. R-MUX installed on rotor hub.

within the rotating package. Hence, slip rings handle only the unregulated power. Also, no voltage- or current-dependent data are transferred via the slip ring. Only frequency-encoded composite signals from the multiplexes are passed through the slip ring.

Figure 17 is a view of the R-MUX with the top cover removed. The cannister is 21 inches in diameter and 9 inches in height. Its total weight is 55 pounds. Structural brackets on the lower surface of the cannister interface with the four trunnion-cap bolts of the AH-1G hub assembly. The six-inch by twelve-inch opening in the center of the package provides clearance for the main mast extension nut and the 120 slip-ring assembly. The two 41-pin connectors, seen at the upper perimeter of the central opening, provide the total electrical interface with the slip ring assembly and the stationary equipment below. Twenty identical 41-pin connectors on the lower surface of the package provide the necessary 820-wire interface to the rotating transducers. All connectors (22 total) on the cannister are of the radio frequency filter type and every metal-to-metal interface in the structure is sealed with radio frequency gasket material to insure immunity from RFI/EMI degradation. Laboratory tests confirmed the desired RFI/EMI performance.

The R-MUX contains the following:

a. Twenty independent 16-band FM frequency division multiplexes, front and back view in Figures 18 and 19, respectively.

b. Two independent transducer bridge voltage regulators and calibrators, shown in Figure 20.

c. Five independent hot-wire excitation and monitor assemblies, with same type of plug-in module as item b above.

d. Appropriate interfacing circuits and filters.

Items a through c above are plug-in, field-replaceable modules that require no more than five minutes to remove and replace.

Referring again to Figure 17, the twenty 16-band, multiplex modules may be seen as they are located around the perimeter of the 21-inch diameter cannister. Each of these 20 modules contains:

a. Sixteen signal-conditioning amplifiers, shown in Figures 18 and 21.

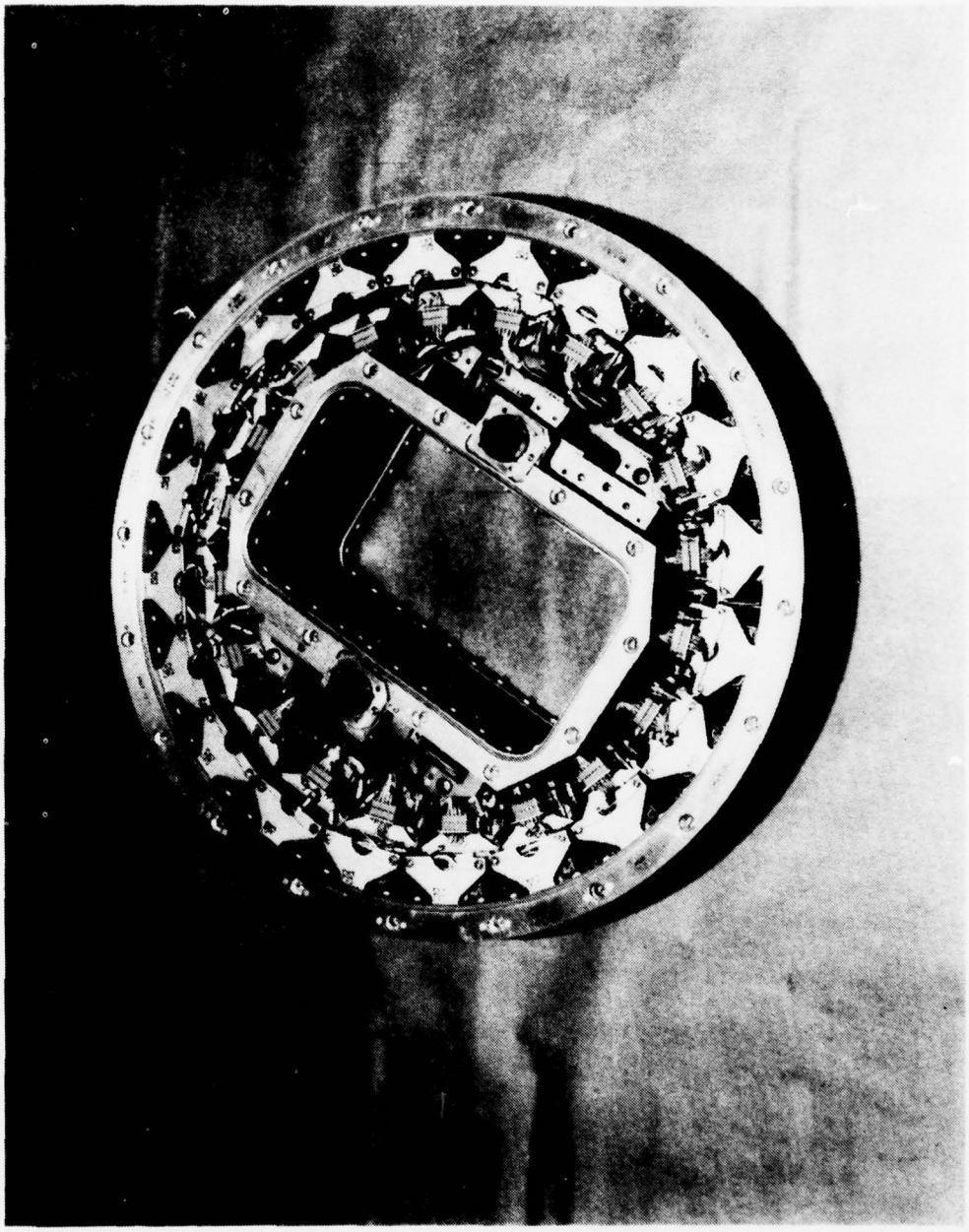


Figure 17. Top view of R-MUX with cover removed.

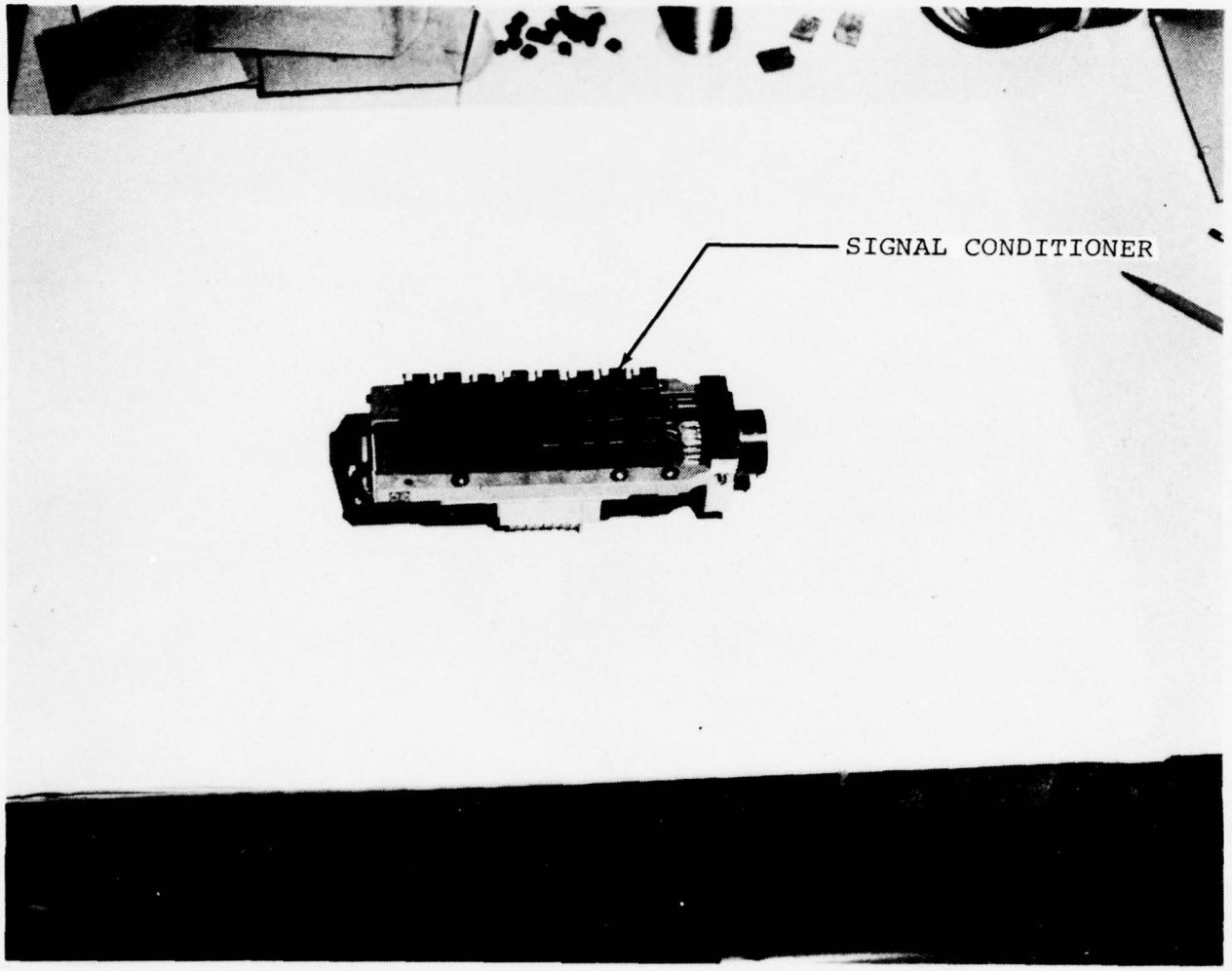


Figure 18. Front view of typical 16-band FM frequency division multiplex.

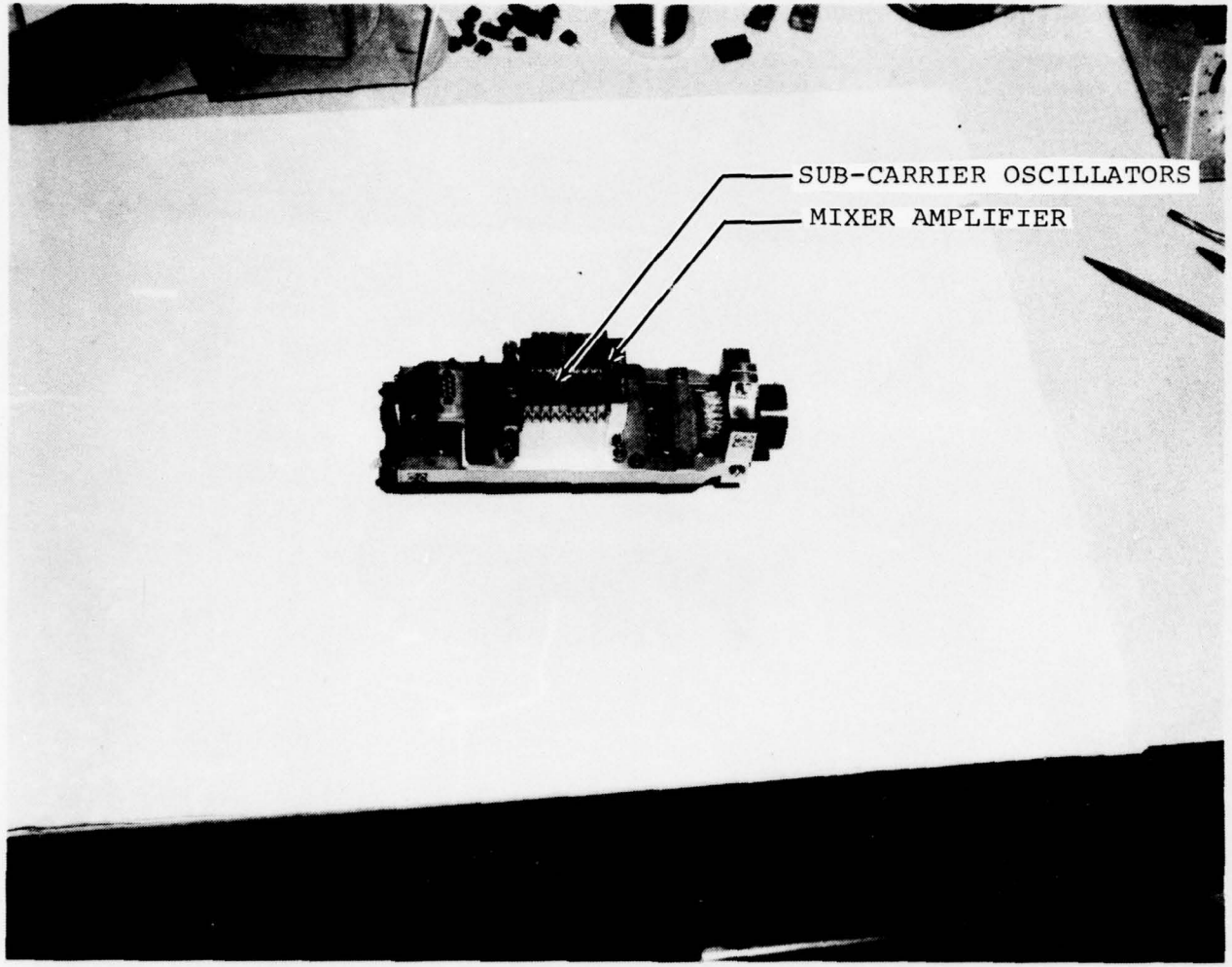


Figure 19. Back view of typical 16-band FM frequency division multiplex.

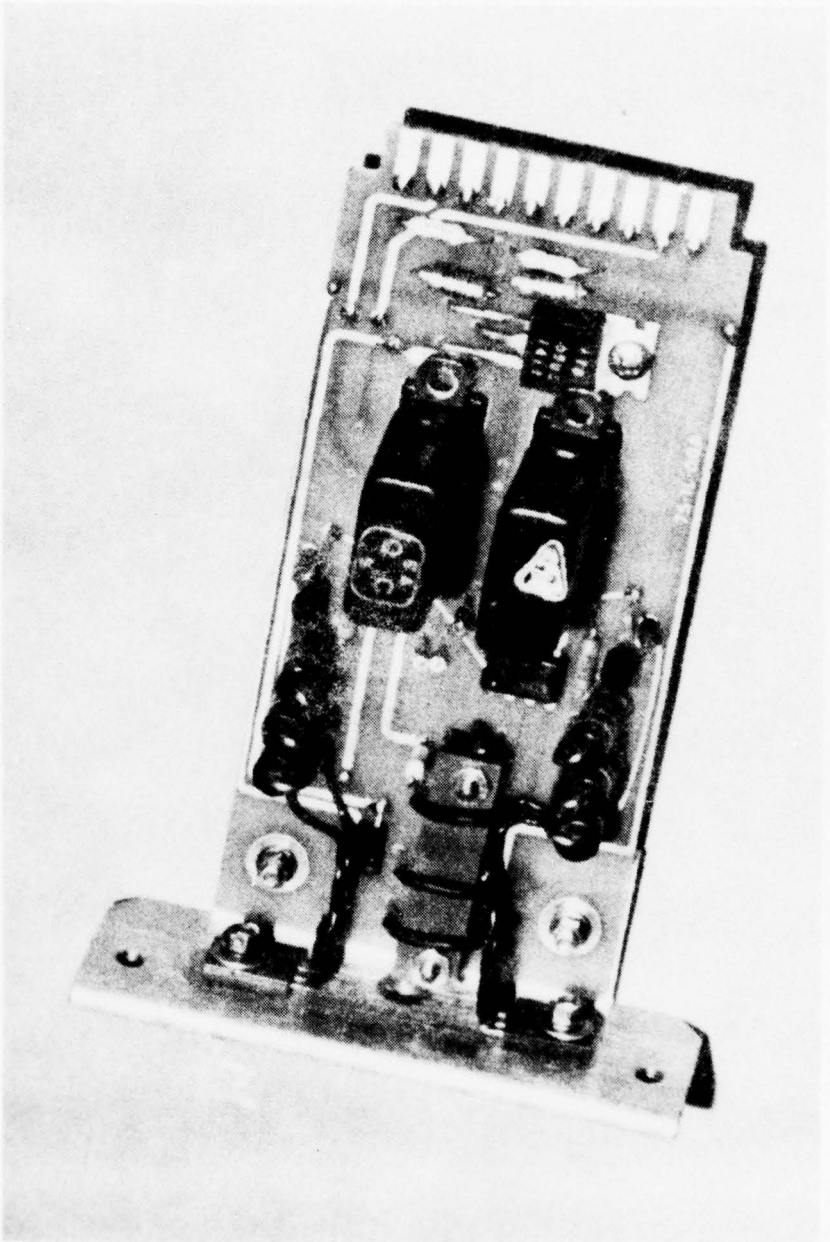


Figure 20. Bridge voltage regulator and calibrator.

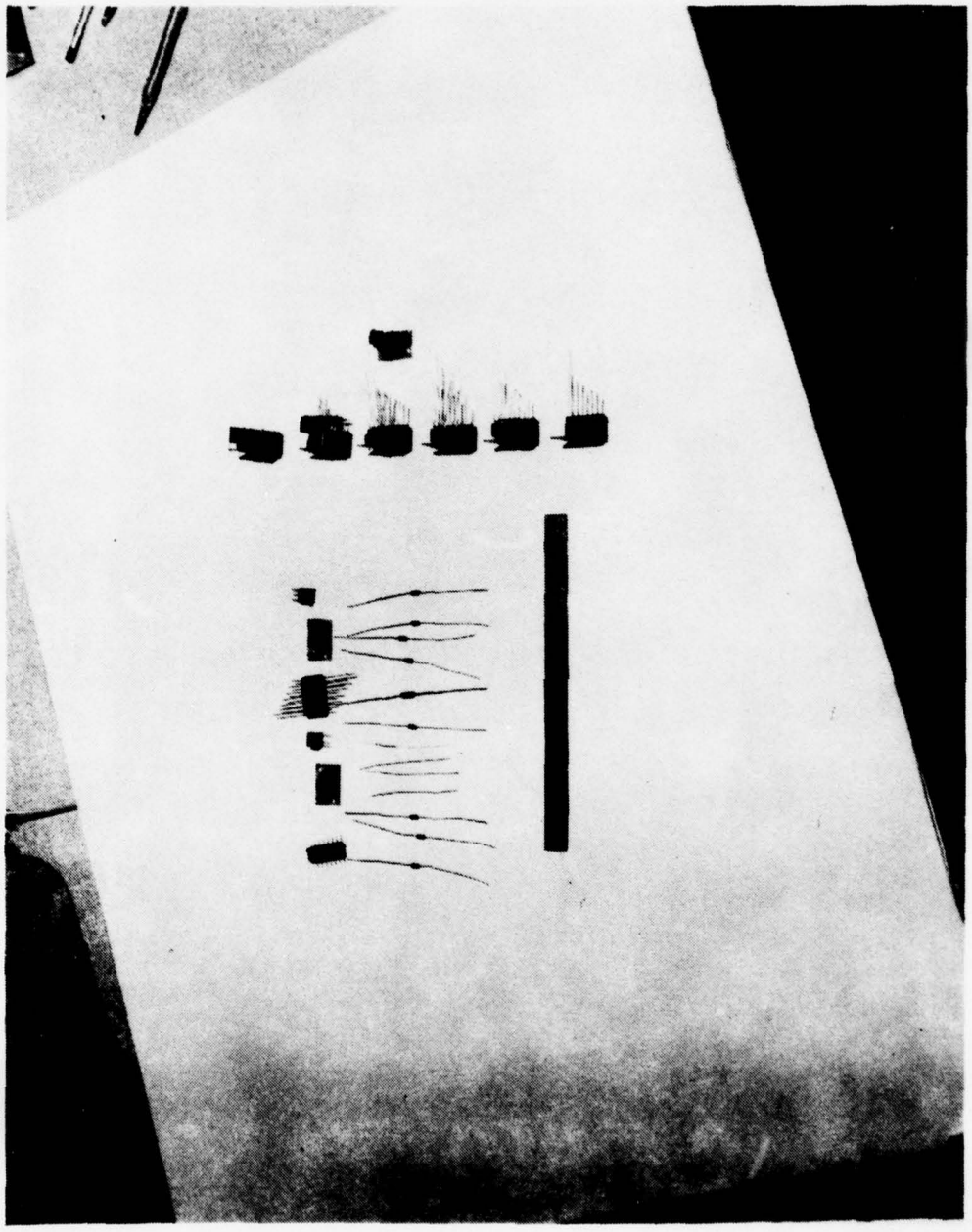


Figure 21. Signal conditioner components and assembly.

b. Sixteen sub-carrier oscillators, shown in Figure 19.

c. One mixer amplifier, shown in Figure 19.

d. Radio frequency filter connector.

The 647 screwdriver-adjustable controls on the R-MUX are all immediately accessible through small holes in the assembly. These adjustable controls are:

a. 320 amplifier balances.

b. 320 bridge balances.

c. Two bridge excitation voltages.

d. Five hot-wire excitation voltages.

2.3.11 Instrumentation Rack, Ammo Bay

Figure 22 is a photograph of the instrumentation equipment installed in the ammunition bay of the AH-1G. The entire rack assembly is mounted on a slide tray, which permits it to be easily moved out of the ammo bay for pre-flight or maintenance operations. On the lower level, from left to right, are the power distribution package, the time code generator, and the AR-728 magnetic tape recorder. On the top level, in the center, is the stationary multiplex unit with its top cover plate open. Power supply modules for the rotating multiplex (not present in this photograph) are carried on this rack. Also mounted on this rack, but out of view, are the instrumentation gyros and system program board.

The power-distribution package contains system circuit breakers and DC to DC converters, which power the stationary multiplex unit. The package also contains the master logic control card, which is programmed to monitor system voltages, to generate system status code voltages, and to provide start/stop logic and timing functions for the tape recorder. A 68-kHz reference oscillator and the 560-Hz system status code (level code) voltage controlled oscillator are also contained in the package.

The time code generator provides a coded output containing timing and record number information. This signal is combined with the pilot's voice log, to conserve tape data tracks, and is routed to the tape recorder.

The magnetic tape recorder is a standard AR-700 machine that is equipped with 28-track heads rather than the standard 14 tracks. In this configuration, the machine is designated AR-728. It uses conventional reels carrying one-inch-wide by 3600-foot tape.

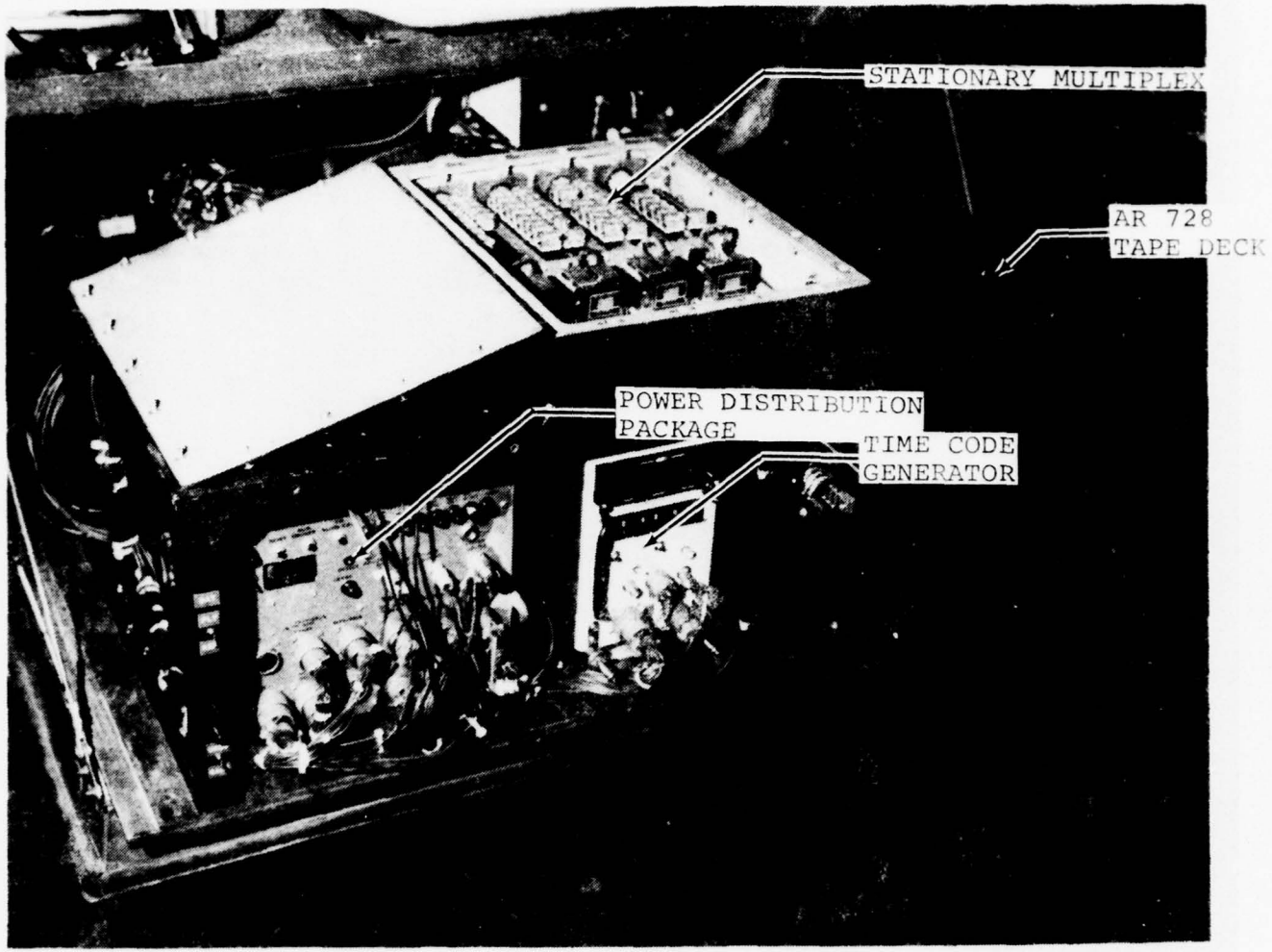


Figure 22. The fixed system instrumentation equipment mounted on ammunition bay rack.

The Stationary Multiplex Package (S-MUX) contains four independent 16-band FM frequency division multiplexes that are electronically identical to the 20 multiplexes in the R-MUX. Radio frequency interference protection is incorporated in the design of the S-MUX housing.

3. DATA DESCRIPTION AND USAGE

The purpose of this section is to identify the flight-test data that was delivered on magnetic tape under the contract to provide information that is necessary for utilization of this flight test data.

3.1 DATA MATRIX/FLIGHT CONDITIONS

Real-time prime data records are identified by two numbers, Flight Number and Counter Number. The data record Counter Number is used for access to selected data from the analog and digital tapes. The Flight Number was advanced for each flight and the Counter Number was advanced for each record. Flight and Counter Numbers for the records taken to meet the flight test plan requirements are given in Section 4, Testing.

3.2 DETAIL SET-UP SHEETS

Figure 23 is an example of a detail set-up sheet. Appendix B contains eleven sets of set-up sheets, covering all delivered data, with each set containing ten pages through Counter Number 746 and nine pages each thereafter. A new set of set-up sheets is issued each time a regage, recalibration, or transducer change occurs.

The headings used in the set-up sheets and in the sample in Figure 23 are explained below, except those that are obvious.

FIRST REC AND LAST REC. These numbers define the series of data record Counter Numbers for which the particular set-up is valid.

ITEM. Each instrumented item which was recorded is given a unique number listed in this column.

TK. This refers to the track number (of the AR-728 28-track tape recorder) upon which the data item is recorded.

BD. For multiplexed data, this lists the multiplex band upon which the data item is recorded. For a nonmultiplexed data item, "FM" is entered.

EFFECTIVE FIRST REC. This lists the first data record Counter Number for which the indicated set-up on each data item is valid.

DESCRIPTION. This lists definition and location of each data item. "Red" and "White" indicate which blade. STA gives the radial station in inches. For example; MR RED BLADE BM BEND STA 60 means the following: a strain gage beam bending bridge is located at the 60.0-inch red blade radial station.

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BC FIRST REC 672
FIRST FLT 37-A S/N 20391 DATE 8-22-75 LAST REC 746

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
F050	1	01	1	LIFT LINK AXIAL FORCE	LB	23126.1	-1407.00	FW	11034.0	0	5.84
A005	1	02	1	C.G. LOAD FACTOR	G	2.36626	1.00000	FW	1.12900	0	5.84
F102	1	03	1	COLLECTIVE BOOST TUBE A.F.	LB	9540.49	0.000000	FW	4552.00	0	5.84
F101	1	04	1	LAT CYCLIC BOOST TUBE A.F.	LB	9620.14	0.000000	FW	4590.00	0	5.84
F100	1	05	1	F/A CYCLIC BOOST TUBE A.F.	LB	10181.8	0.000000	FW	4858.00	0	5.84
F103	1	06	1	MR RED PITCH LINK AXIAL FORCE	LB	6715.46	0.000000	FW	3248.00	0	5.92
B112	1	07	320	MR RED YOKE BM BEND STA 6	IN LB	72635.0	-41158.0	FO	13971.0	0	5.91
B115	1	08	1	MR RED YOKE CH BEND STA 11.5	IN LB	286478.	0.000000	FB	275729.	0	5.91
B120	1	09	320	MR RED BLADE BM BEND STA 60	IN LB	62068.6	-23126.0	FW	29868.0	0	5.89
B122	1	10	320	MR RED BLADE BM BEND STA 132	IN LB	38584.1	-11098.0	FW	18567.0	0	5.89
B126	1	11	320	MR RED BLADE BM BEND STA 81.5	IN LB	48883.1	-19725.0	FW	23523.0	0	5.89
F105	1	12	1	MR RED DRAG BRACE AXIAL FORCE	LB	30242.6	0.000000	FW	14553.0	0	5.89
B123	1	13	1	MR RED BLADE CH BEND STA 132	IN LB	277973.	0.000000	FW	133763.	0	5.89
B114	1	14	509	MR RED YOKE BM BEND STA 11.5	IN LB	61151.0	-38531.0	FO	11782.0	0	5.92
M150	1	15	1	MR RED BLADE TORSION STA 81.5	IN LB	33167.5	0.000000	FB	31815.0	0	5.89
M207	1	16	1	TR MAST TORQUE	IN LB	8299.47	0.000000	FW	3987.00	0	5.88
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.8481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
A321	2	07	515	90 DEG G.B. VERT VIBR STA 518	G	23.8440	1.00000	FO	4.56300	0	5.88
A306	2	08	320	NOSE LAT VIBRATION STA 46	G	3.11889	0.000000	FW	1.48300	0	5.82
A304	2	09	1	GUNNER LAT VIBRATION STA 100	G	4.95734	0.000000	FO	0.939000	0	5.82
A307	2	10	1	AFT FUS LAT VIBRATION STA 249	G	5.11928	0.000000	FO	0.993000	0	5.96
A311	2	11	320	UPPER FIN LAT VIBR STA 521	G	56.1604	0.000000	FY	5.35600	0	5.88
A600	2	12	515	LT WING VERT VIBRATION STA 195	G	10.1350	1.00000	FY	0.960000	0	5.84
A601	2	13	515	RT WING VERT VIBRATION STA 195	G	9.97668	1.00000	FY	0.945000	0	5.84
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
D007	3	01	1	SIDESLIP ANGLE	DEG	96.7002	0.000000	FW	45.9800	0	5.82
D008	3	02	1	ANGLE OF ATTACK	DEG	86.3740	-3.70000	FW	41.0700	0	5.82
D051	3	03	1	LT FWD PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D052	3	04	1	RT FWD PYLON VERT POS	IN	0.562959	0.000000	FO	0.107000	0	5.84

Figure 23. Sample of instrumentation set-up sheet.

UNITS. This lists the engineering units in which the data item is calibrated.

DELTA CAL. This lists the calibrated peak-to-peak amplitude of the three-cycle square-wave automatic calibration sequence that closes each prime data record. This magnitude is in engineering units listed in preceding column (UNITS).

REF VALUE. This lists the reference value of the data item in the same units as the one given in the "UNITS" column. This is the value of the data item as recorded prior to the data flight with the aircraft resting in a static reference condition in the hangar. The data record for this value is the 'P' CAL record.

MODULE CODE, UNITY CAL, BRIDGE RESIST, VAT. These list items that are employed internally at BHT for calculation of the DELTA CAL values for each data item.

3.3 ANALOG TAPES

Analog data tapes that were delivered to USAAMRDL under this test program were produced on a Honeywell Model 9600 Analog Data System, utilizing a 28-track tape head for 1-inch-wide instrumentation magnetic tape. Prime data records for all flight conditions of the flight test plan are reproduced in these analog tapes by copying directly from the original flight tape from the AR-278 flight recorder. Analog tape speed is 15 inches/second prior to Counter Number 849 and 30 inches/second on Counter 849 and after. The higher speed was used to record high frequency acoustics data.

The FM multiplex signals, consisting of sixteen data channels (bands) each, are recorded on the multitrack flight recorder, one multiplex signal per tape track. Table 6 specifies the frequency assignments of the multiplex bands. Each multiplex signal also contains two additional carriers. A 68-kHz crystal-derived frequency provides a basis for electronic flutter correction, and a 560-Hz voltage-controlled oscillator provides a level code or system status indicator (see Table B.2, page 163). This multiplex base band configuration is unique to BHT.

The pilot has the option of running the tape continuously or stopping it. The technique most often used is to stop the tape only when long periods of time without points of interest would waste the tape. When a stabilized point of interest is reached or a maneuver is initiated, the pilot pushes a prime data switch, located on the collective stick, which causes the level code VCO to shift from data level to prime data level. When the pilot has completed the specified data point, he pushes the switch again, which terminates the prime data record

and initiates the two point, three-cycle, automatic calibration sequence. The level code VCO tracks the calibration sequence by shifting from Cal Command (80% bandwidth) to Cal Shift (20% bandwidth). The level code returns to the data level at the completion of the calibrations, and a new record number appears on the data system control panel. This technique creates a tape with a continuous record of the flight interspersed with prime data records. The level code provides a method of interfacing prime data records with the computer and strip chart processing. The voice track records all pilot comments. The pilot identifies the record he is referring to by stating the counter number. This furnishes straightforward comparisons between the pilot's comments and the processed data. The record counter number is encoded in the time code. Hence, each tape reel represents a data matrix of variables where each variable is uniquely identified with an item code and a record counter number. Precision instrumentation reels with one-inch wide, 3600-foot long, one-mil thick, polyester-base, B-oxide magnetic tape were used.

TABLE 6. FREQUENCY ASSIGNMENTS AND SPECIFICATIONS

BAND	QUANTITY		CENTER FREQUENCY	MAXIMUM DATA FREQUENCY
	ROTATING	STATIONARY		
1	19	4	1.5 kHz ±250 Hz	50 Hz
2	19	4	2.5 kHz ±250 Hz	50 Hz
3	19	4	3.5 kHz ±250 Hz	50 Hz
4	19	4	4.5 kHz ±250 Hz	50 Hz
5	19	4	5.5 kHz ±250 Hz	50 Hz
6	20	3	6.5 kHz ±250 Hz	50 Hz
7	20	3	10.0 kHz ±1.0 kHz	200 Hz
8	20	3	14.0 kHz ±1.0 kHz	200 Hz
9	20	3	18.0 kHz ±1.0 kHz	200 Hz
10	20	3	22.0 kHz ±1.0 kHz	200 Hz
11	20	3	26.0 kHz ±1.0 kHz	200 Hz
12	20	3	30.0 kHz ±1.0 kHz	200 Hz
13	20	3	34.0 kHz ±1.0 kHz	200 Hz
14	20	3	44.0 kHz ±2.0 kHz	400 Hz
15	20	3	52.0 kHz ±2.0 kHz	400 Hz
16	19	4	60.0 kHz ±2.0 kHz	400 Hz
TOTAL	314	54		

3.4 DIGITAL TAPES

Digital data tapes that were delivered under this test program were produced on a Xerox Model 530 Digital Data System by processing the analog tape prime data records into a digital format. Reference 8 describes the digital data tape format generated by the Bell Helicopter Textron XDS530 computer system at the Ground Data Center. This format was developed to provide a standardized tape format for interfacing digital data tapes with flight test analysis software programs residing on both BHT XDS530 and IBM 370 computer systems.

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[8]Tieman, L. J., "Ground Data Center Standard Digital Tape Format," Bell Helicopter Textron Report 699-099-020, Fort Worth, Texas, 21 April 1976.

4. TESTING

Flight test conditions were chosen to obtain data over the maximum range of rotor operations possible within the specified flight hours. The flight testing was divided into three parts: basic flight envelope to obtain aerodynamic and dynamic data, nap-of-the-earth flight simulation to measure the effects of such operations on the fatigue lives of the dynamic components, and partial power descents and high-speed flyovers to acquire rotor acoustics and airloads data simultaneously.

In addition to the flight testing, ground-run tests and shake tests were performed. Figure 24 is a photograph of the test vehicle. The tests were conducted at the BHT Flight Research Center.

4.1 GROUND TESTS

The flight test program was preceded by a series of ground runs with the helicopter tied to the ground by means of a tiedown link attached to the helicopter lift beam. The main purpose of the ground run was to evaluate the helicopter safety-of-flight and main rotor dynamics characteristics in preparation for the flight-loads survey.

The specific items that were evaluated with respect to the main rotor were:

- boost-off control
- adequacy of collective hydraulic accumulator
- rotor weaving
- torsional response.

The ground runs were also used to conduct functional checks on systems and instrumentation. Table 7 gives a detailed list of all ground-run test items.

The helicopter safety-of-flight was reviewed and approved at the conclusion of the ground tie-down tests by USAAMRDL personnel. The results of tests to identify main rotor dynamics are discussed below.

4.1.1 Run-ups

Rotor run-ups from flight idle rotor speed (200 rpm) to maximum power-on rotor speed (331 rpm) and back to flight idle rpm were conducted at flat pitch and at approximately 15-percent and 40-percent collective stick positions.

Strip charts of rotor loads recorded during the tests were perused to obtain blade resonance responses (cross-overs). A

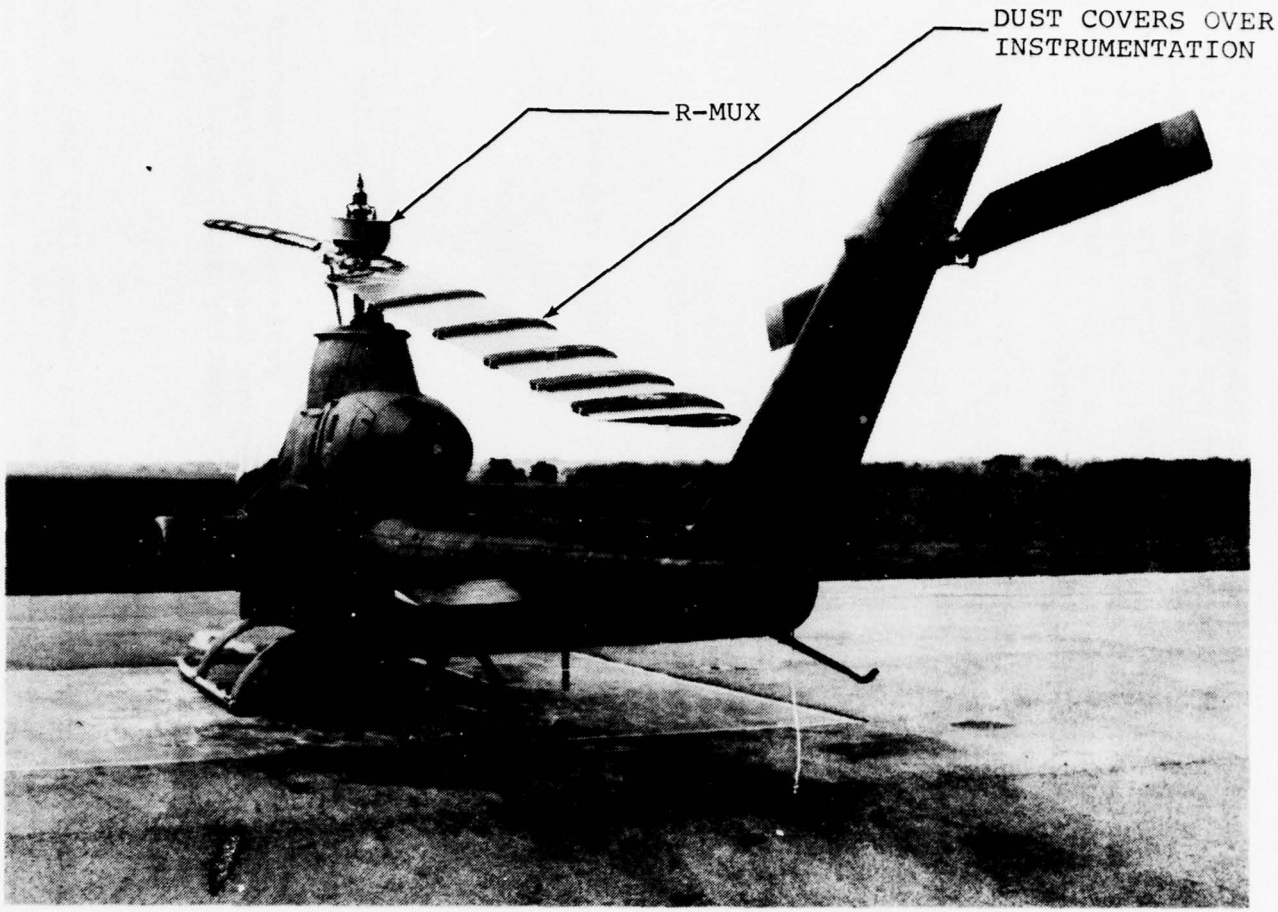


Figure 24. AH-1G test helicopter with the Rotor Environment Test Instrumentation (RETI) installed.

TABLE 7. TIEDOWN GROUND RUN TEST CONDITIONS

Run No.	Conditions/Remarks
1	Track and balance main rotor blades
2	Check operation of instrumentation
3	Flight Idle (F.I.) to Max RPM (331) and back to F.I. Boost On, flat pitch, cyclic inputs (N_I 91%)
4	RPM Data Sweep F.I. to 331 and back to F.I. Boost on, flat pitch (N_I 91%)
5	RPM Data Sweep F.I. to 331 and back to F.I. Boost on, 15% collective (N_I 91%)
6	RPM Data Sweep F.I. to 331 and back to F.I. Boost on, 40% collective (N_I 91%)
7	Flat pitch to 50 psi torque at 324 RPM a. Boost on b. Boost off (accumulator on) c. Boost off (accumulator off)
8	Q = 30 psi and N_R = 324 RPM a. Cyclic stir (acc. on) (1) With rotation (boost on and off) (2) Against rotation (boost on and off) b. Pedal oscillation c. Throttle oscillation
9	Flat pitch to Q = 50 psi at N_R = 314 RPM
10	Flat pitch to Q = 50 psi at N_R = 294 RPM
11	Frequency sweeps 0-20 Hz using SCAS oscillator N_R = 290 RPM N_R = 305 RPM N_R = 324 RPM

summary of the harmonic responses observed is given in Table 8. A comparison of the observed responses with the predicted resonance cross-overs is presented in Figure 25 for the rotor collective modes and in Figure 26 for the rotor cyclic modes. These data show that the measured rotor natural frequencies except for the indication of a seven-per-rev crossing at 300-317 rpm agree closely with predicted values, including the blade cyclic torsion mode.

4.1.2 SCAS Actuator Shake Test

A SCAS actuator shake test was conducted to further verify the rotor cyclic mode natural frequencies, particularly with regard to the blade torsional mode. The tests were conducted by operating the rotor at a constant rpm and oscillating the blade in pitch using the vehicle's longitudinal SCAS. The pitch oscillations were varied in frequency from 2 to 20 Hz. Amplitude and frequency of the pitch oscillations were controlled using a Wavetech Oscillator connected through the SCAS actuator electronics. Steady-state records of blade strain gage data were recorded in 0.5 Hz increments from 2 to 20 Hz at rotor operating speeds of 291, 305 and 324 rpm.

A spectral analysis of each data point was conducted. Fourier coefficients at the excitation frequency were obtained for the longitudinal cyclic control input (fixed system) and at the rotor response frequencies for the rotor yoke and blade beam and chord bending moments, blade torsional bending moment, and pitch link and drag brace axial forces (rotating system). A list of typical Fourier coefficients obtained from the spectral analysis is presented in Table 9. The magnitudes of the rotor responses (i.e., the Fourier coefficients) were normalized on the magnitude of the control input for each data point. The results were then plotted as functions of frequency to obtain forced response transformation curves. The transformation curves for the main rotor links, drag brace, and rotor beam, chord and torsion responses are presented in Figure 27 for rotor operating speed at 291 rpm. The major response peaks from each curve obtained were rated and are summarized in Table 10 for all tests conducted. The relative order of the responses (for the four highest peaks) is noted in the table.

The results of the test are compared with computed data in Figure 28, which presents an expanded portion of the cyclic mode fan plot (i.e., blade natural frequency vs. rotor speed at flat pitch; 8.5 degrees root collective). Only those data points from Table 10 related to rotor natural frequency responses are shown. Harmonic responses, i.e., two per rev, three per rev, and four per rev, and responses believed to be related to airframe modes (as determined by insensitivity of change with regard to rotor speed), are omitted for clarity. The test

TABLE 8. OBSERVED HARMONIC RESPONSES DURING GROUND RUN

GR No. 8 Preliminary Run-Up & Run-Down at Flat Pitch			GR No. 9 (Rec. 099) Run-Up & Run-Down at Flat Pitch			GR No. 9 (Rec. 100) Run-Up & Run-Down at 15% Collective		
Harmonic	Response	RPM	Harmonic	Response	RPM	Harmonic	Response	RPM
3P	Beam & Chord	194	3P	Beam & Chord	200	3P	Beam & Chord	200
3P	Beam & Chord	200	5P	Beam	230	6P	Beam	194
5P	Beam	218	7P	Beam	316	5P	Beam	250
3P	Torsion	316	3P	Torsion	318	3P	Torsion	324
7P	Beam	300	5P	Beam	230	5P	Beam	245
			3P	Beam & Chord	200	3P	Beam & Chord	210

GR No. 9 (Rec. 101) Run-Up & Run-Down at 40% Collective			GR No. 9 (Rec. 117) Rotor Shut-Down From Flight Idle		
Harmonic	Response	RPM	Harmonic	Response	RPM
3P	Beam & Chord	207	5P	Beam	250
6P	Beam	194	6P	Beam	200
5P	Beam	250	3P	Beam & Chord	194
3P	Torsion	324	6P	Beam	188
5P	Beam	245	3P	Beam	139
6P	Beam	210	4P	Beam	116
3P	Beam & Chord	200			

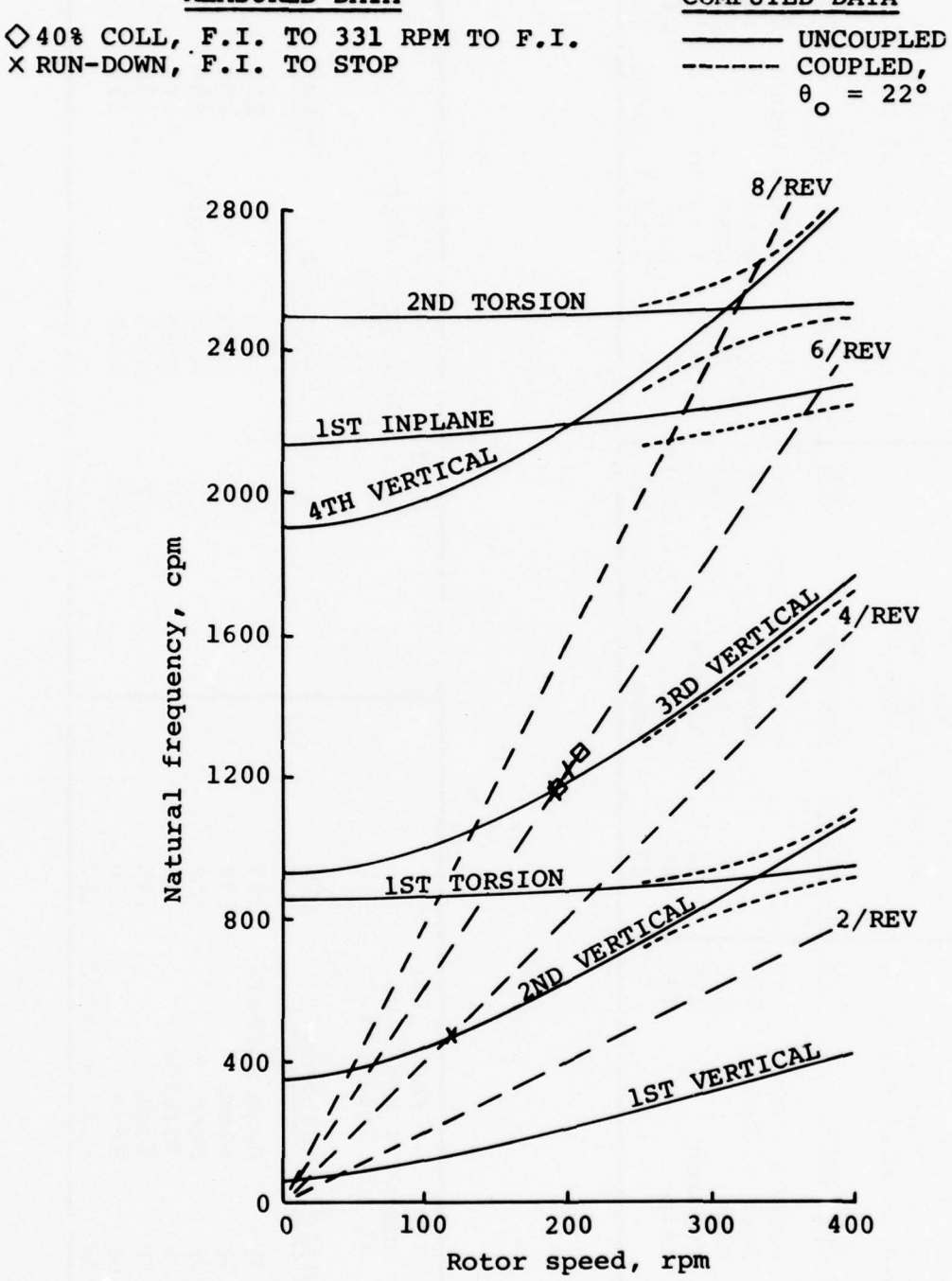


Figure 25. Comparison of predicted and measured collective mode natural frequencies.

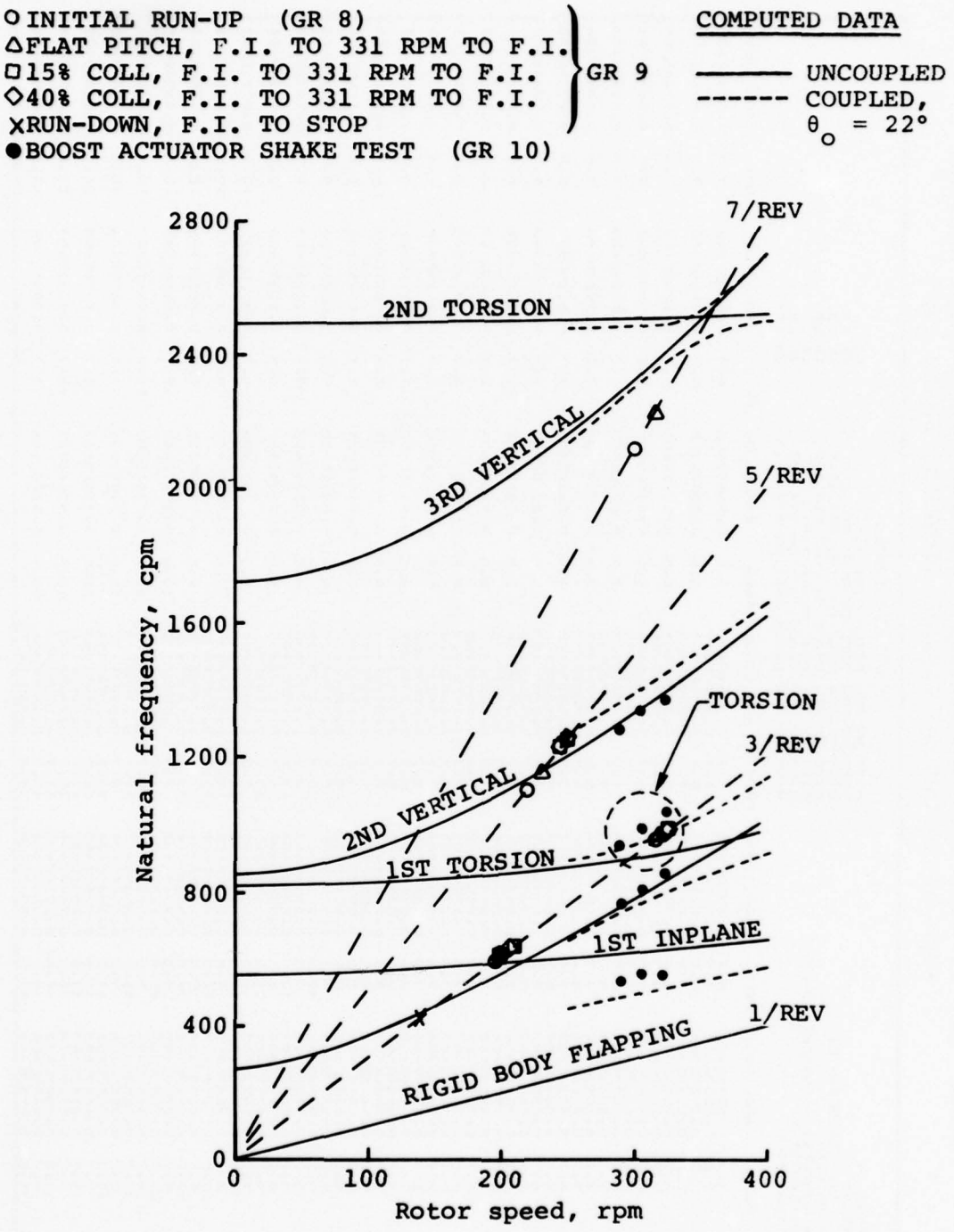


Figure 26. Comparison of predicted and measured cyclic mode natural frequencies.

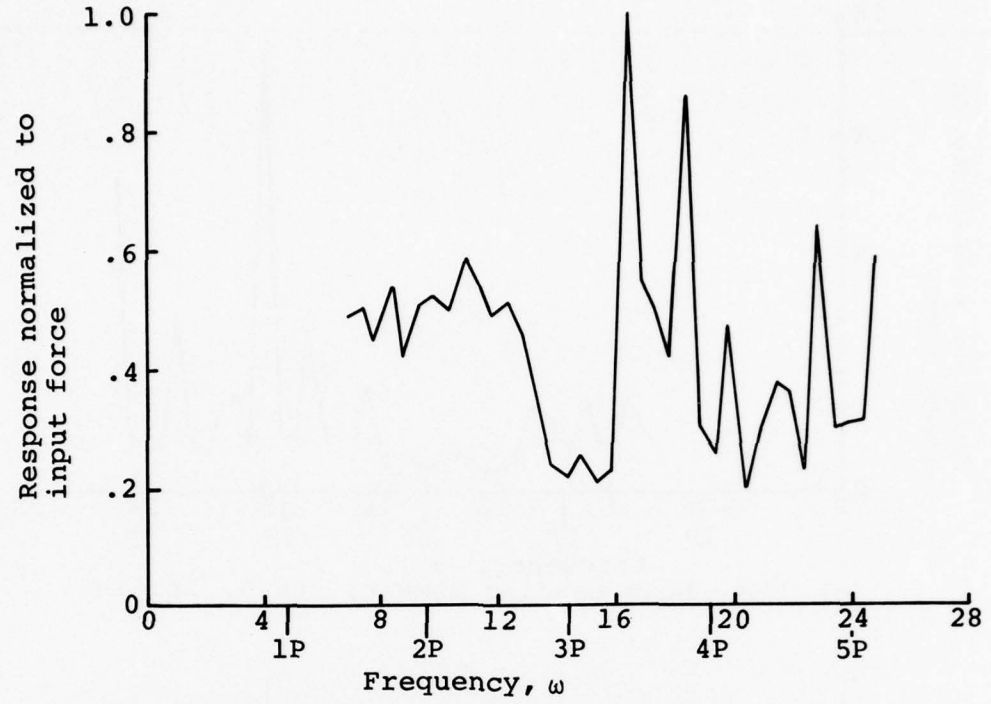
TABLE 9. TYPICAL SPECTRAL ANALYSIS FOURIER COEFFICIENT LISTING FROM AH-1G GROUND TIEDOWN ROTATING SHAKE TEST

NO. OF RECORDS: 37
NO. OF CHANNELS: 7
SAMPLE RATE: 1024 SAMPLES/SEC.
INCREMENT OF POINTS: 1
TIME BETWEEN SAMPLES: 0.97656E-03 SEC.
PRINT OPTION(YES=T): T
PLOT OPTION(YES=T): F

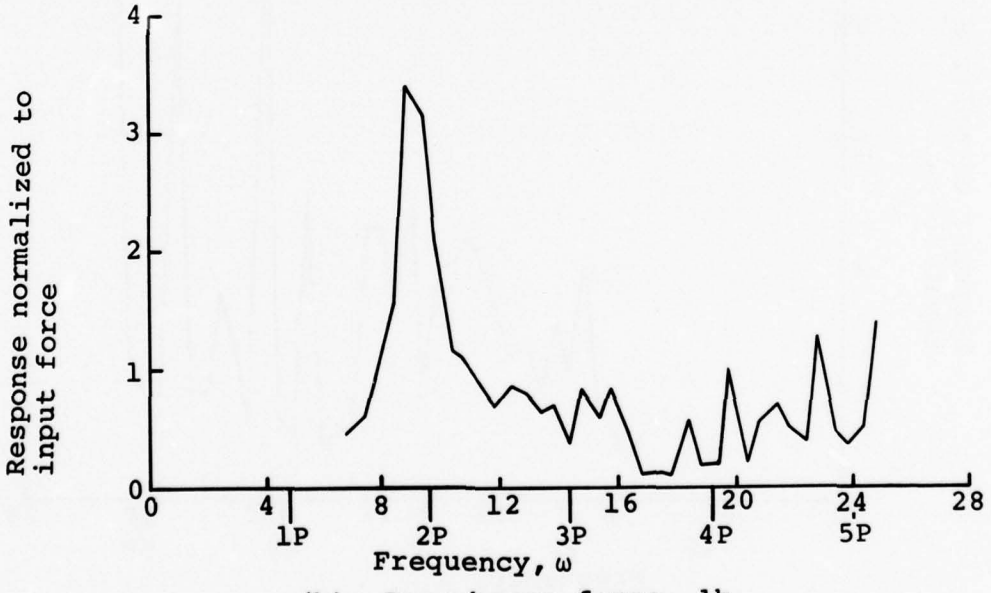
LIST OF CHANNELS

F103	MR RED PITCH LINK A.F.	LB	
B112	MR RED YOKE AM BEND STA 6	IN LB	
B115	MR RED YOKE CH BEND STA 11.5	IN LB	
B122	MR RED BLADE AM BEND STA 132	IN LB	
F105	MR RED DRAG BRACE A.F.	LB	
B123	MR RED BLADE CH BEND STA 132	IN LB	
M150	MR RED BLADE TORSION STA 81.5	IN LB	

RECORD	ITEM	FREQ	AMPLITUDE	FREQ	AMPLITUDE	FREQ	AMPLITUDE	FREQ	AMPLITUDE	FREQ	AMPLITUDE	FREQ	AMPLITUDE
135	F103	5.7	0.1491E+03	6.0	0.1210E+03	6.2	0.7280E+02	6.5	0.6643E+02	6.7	0.6510E+02	7.0	0.6349E+02
		7.2	0.6033E+02	7.5	0.5572E+02	7.7	0.4895E+02						
135	B112	5.7	0.1059E+04	6.0	0.8233E+03	6.2	0.3846E+03	6.5	0.2883E+03	6.7	0.2686E+03	7.0	0.2635E+03
		7.2	0.2639E+03	7.5	0.2640E+03	7.7	0.2605E+03						
135	B115	5.7	0.4598E+04	6.0	0.3585E+04	6.2	0.1714E+04	6.5	0.1331E+04	6.7	0.1255E+04	7.0	0.1236E+04
		7.2	0.1214E+04	7.5	0.1192E+04	7.7	0.1175E+04						
136	F103	6.2	0.6067E+02	6.5	0.5950E+02	6.7	0.6345E+02	7.0	0.6660E+02	7.2	0.6825E+02	7.5	0.6835E+02
		7.7	0.6727E+02	8.0	0.6438E+02	8.2	0.6056E+02						
136	B112	6.2	0.5072E+03	6.5	0.4352E+03	6.7	0.4320E+03	7.0	0.4302E+03	7.2	0.4271E+03	7.5	0.4180E+03
		7.7	0.4084E+03	8.0	0.4067E+03	8.2	0.5079E+03						
136	B115	6.2	0.2052E+04	6.5	0.1807E+04	6.7	0.1872E+04	7.0	0.1932E+04	7.2	0.1961E+04	7.5	0.1960E+04
		7.7	0.2468E+04	8.0	0.2799E+04	8.2	0.3051E+04						
137	F103	6.7	0.4936E+02	7.0	0.5446E+02	7.2	0.5819E+02	7.5	0.6032E+02	7.7	0.6109E+02	8.0	0.6036E+02
		8.2	0.5844E+02	8.5	0.5476E+02	8.7	0.4865E+02						
137	B112	6.7	0.2350E+03	7.0	0.2295E+03	7.2	0.2269E+03	7.5	0.2220E+03	7.7	0.2218E+03	8.0	0.2244E+03
		8.2	0.2661E+03	8.5	0.3083E+03	8.7	0.3364E+03						
137	B115	6.7	0.2176E+04	7.0	0.2471E+04	7.2	0.2689E+04	7.5	0.2817E+04	7.7	0.2869E+04	8.0	0.2846E+04
		8.2	0.2771E+04	8.5	0.2639E+04	8.7	0.2401E+04						
138	F103	7.2	0.4529E+02	7.5	0.5839E+02	7.7	0.6684E+02	8.0	0.7263E+02	8.2	0.7684E+02	8.5	0.7864E+02
		8.7	0.7814E+02	9.0	0.7562E+02	9.2	0.7060E+02						
138	B112	7.2	0.1510E+03	7.5	0.1509E+03	7.7	0.1538E+03	8.0	0.1591E+03	8.2	0.2222E+03	8.5	0.2742E+03
		8.7	0.3122E+03	9.0	0.3359E+03	9.2	0.3484E+03						
138	B115	7.2	0.2639E+04	7.5	0.3443E+04	7.7	0.3972E+04	8.0	0.4312E+04	8.2	0.4510E+04	8.5	0.4596E+04
		8.7	0.4557E+04	9.0	0.4384E+04	9.2	0.4060E+04						
139	F103	7.7	0.4946E+02	8.0	0.5783E+02	8.2	0.6336E+02	8.5	0.6654E+02	8.7	0.6790E+02	9.0	0.6773E+02
		9.2	0.6650E+02	9.5	0.6317E+02	9.7	0.5732E+02						
139	B112	7.7	0.2069E+03	8.0	0.2408E+03	8.2	0.3174E+03	8.5	0.4205E+03	8.7	0.4851E+03	9.0	0.5266E+03
		9.2	0.5475E+03	9.5	0.5527E+03	9.7	0.5417E+03						
139	B115	7.7	0.8475E+04	8.0	0.9971E+04	8.2	0.1094E+05	8.5	0.1152E+05	8.7	0.1176E+05	9.0	0.1168E+05
		9.2	0.1127E+05	9.5	0.1049E+05	9.7	0.9246E+04						
140	F103	8.2	0.5377E+02	8.5	0.7062E+02	8.7	0.8130E+02	9.0	0.8811E+02	9.2	0.9188E+02	9.5	0.9295E+02
		9.7	0.9144E+02	10.0	0.8728E+02	10.2	0.8002E+02						
140	B112	8.2	0.1702E+03	8.5	0.1914E+03	8.7	0.2075E+03	9.0	0.2179E+03	9.2	0.2224E+03	9.5	0.2232E+03
		9.7	0.2177E+03	10.0	0.2097E+03	10.2	0.1953E+03						
140	B115	8.2	0.7190E+04	8.5	0.9565E+04	8.7	0.1107E+05	9.0	0.1204E+05	9.2	0.1257E+05	9.5	0.1274E+05
		9.7	0.1255E+05	10.0	0.1199E+05	10.2	0.1101E+05						
141	F103	8.7	0.5321E+02	9.0	0.6756E+02	9.2	0.7674E+02	9.5	0.8242E+02	9.7	0.8529E+02	10.0	0.8571E+02
		10.2	0.8366E+02	10.5	0.7903E+02	10.7	0.7121E+02						
141	B112	8.7	0.2669E+03	9.0	0.2947E+03	9.2	0.3124E+03	9.5	0.3227E+03	9.7	0.3242E+03	10.0	0.3161E+03
		10.2	0.2979E+03	10.5	0.2684E+03	10.7	0.2300E+03						
141	B115	8.7	0.6764E+04	9.0	0.7371E+04	9.2	0.7705E+04	9.5	0.7799E+04	9.7	0.7662E+04	10.0	0.7278E+04
		10.2	0.6611E+04	10.5	0.5561E+04	10.7	0.4200E+04						
142	F103	9.2	0.6910E+02	9.5	0.7773E+02	9.7	0.8296E+02	10.0	0.8549E+02	10.2	0.8554E+02	10.5	0.8334E+02
		10.7	0.7883E+02	11.0	0.7131E+02	11.2	0.6034E+02						
142	B112	9.2	0.5141E+03	9.5	0.5298E+03	9.7	0.5304E+03	10.0	0.5164E+03	10.2	0.4861E+03	10.5	0.4366E+03
		10.7	0.3657E+03	11.0	0.2548E+03	11.2	0.1746E+03						
142	B115	9.2	0.5485E+04	9.5	0.5542E+04	9.7	0.5421E+04	10.0	0.5104E+04	10.2	0.4553E+04	10.5	0.3725E+04
		10.7	0.3457E+04	11.0	0.3089E+04	11.2	0.2554E+04						
143	F103	9.7	0.9817E+02	10.0	0.1109E+03	10.2	0.1190E+03	10.5	0.1231E+03	10.7	0.1236E+03	11.0	0.1203E+03
		11.2	0.1142E+03	11.5	0.1051E+03	11.7	0.9092E+02						
143	B112	9.7	0.8110E+03	10.0	0.7908E+03	10.2	0.7480E+03	10.5	0.6761E+03	10.7	0.5667E+03	11.0	0.3856E+03
		11.2	0.2641E+03	11.5	0.2234E+03	11.7	0.1752E+03						
143	B115	9.7	0.4085E+04	10.0	0.4509E+04	10.2	0.4859E+04	10.5	0.5046E+04	10.7	0.5085E+04	11.0	0.4987E+04
		11.2	0.4750E+04	11.5	0.4382E+04	11.7	0.3808E+04						

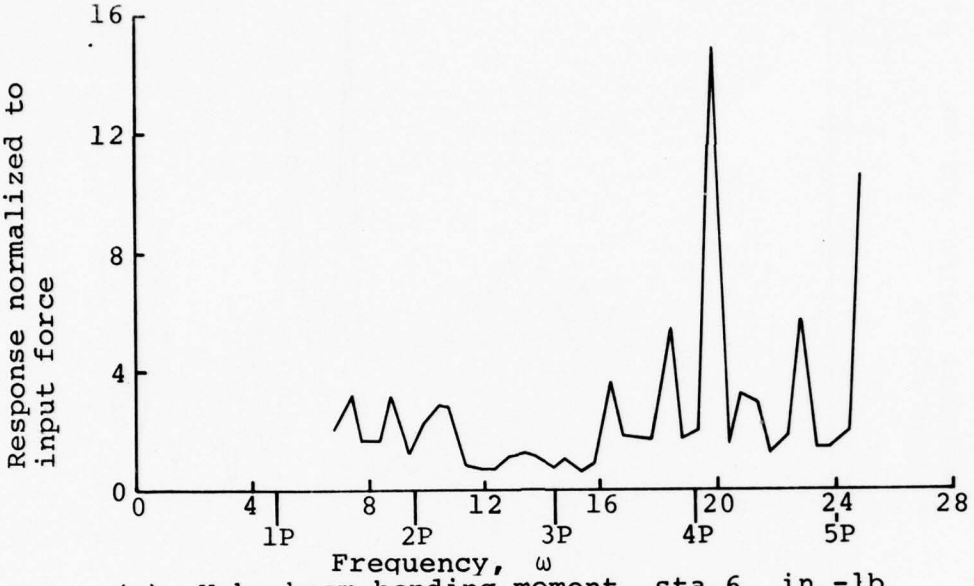


(a) Main rotor pitch link axial force, lb



(b) Drag brace force, lb

Figure 27. Transformation curves for main rotor responses at 291 rpm.

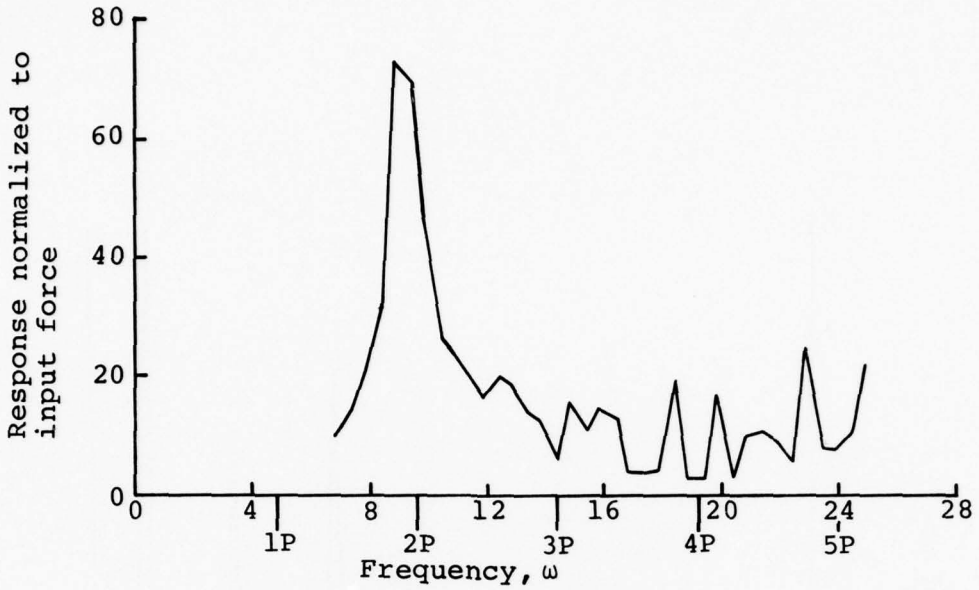


(c) Yoke beam bending moment, sta.6, in.-lb

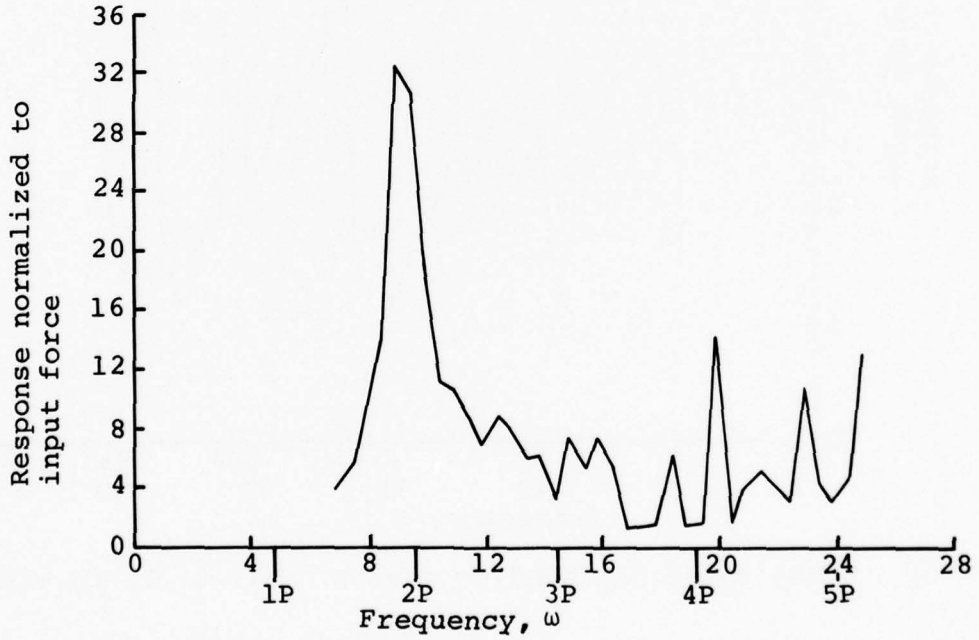


(d) Blade beam bending moment, sta. 132, in.-lb

Figure 27. (Continued)

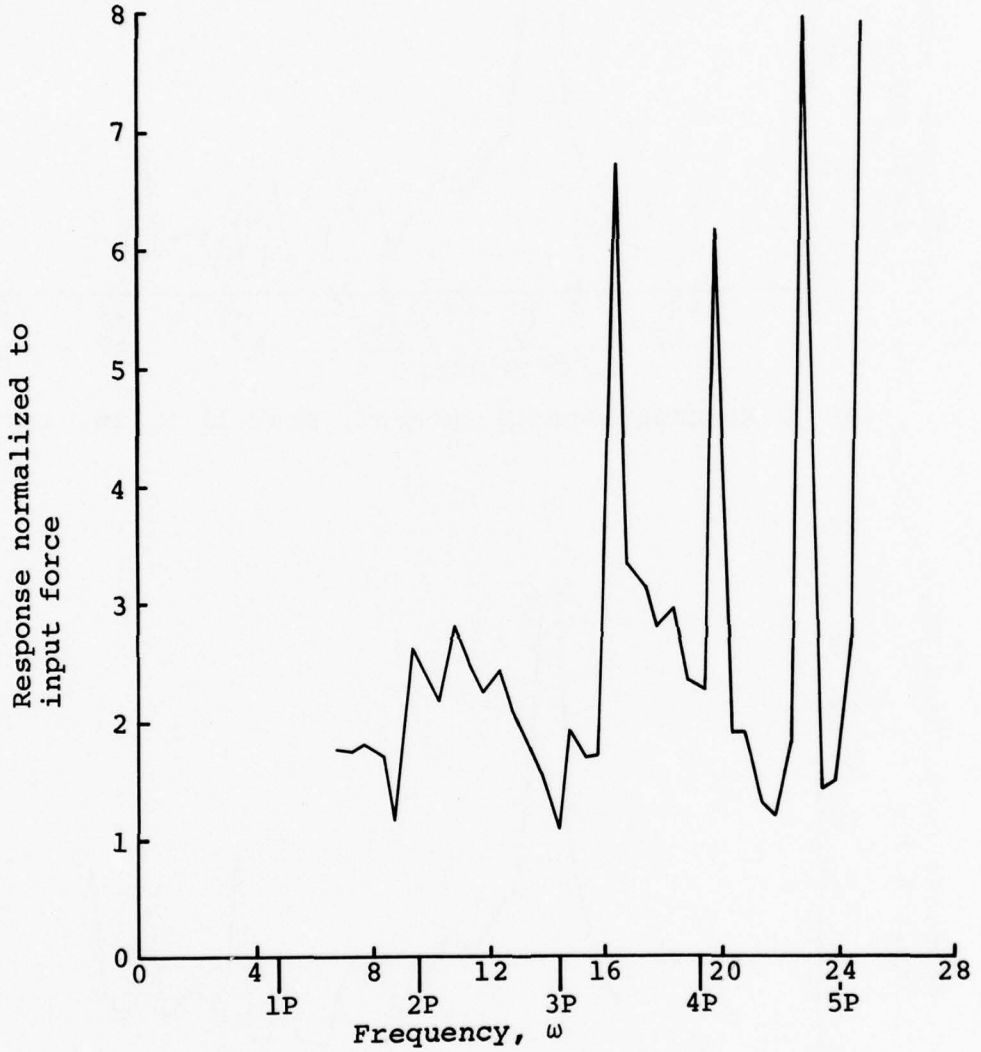


(e) Yoke chord bending moment, sta. 11.5, in.-lb



(f) Blade chord bending moment, sta. 132, in.-lb

Figure 27. (Continued)



(g) Blade torsional bending moment, sta. 81.5, in.-lb

Figure 27. (Concluded)

TABLE 10. SUMMARY OF AH-1G GROUND TIEDOWN ROTATING SHAKE TEST RESULTS

Rotor Speed rpm	Rotor Harmonics Per Rev	Rotor Harmonics CPS	Rotor Response Peaks, CPS: Pitch Link	Yoke Beam Sta 6	Yoke Chord Sta 11.5	Blade Beam Sta 132	Blade Chord Sta 132	Drag Brace	Rotor Torsion Sta 82	Average Response CPS	Average Response CPM	Predicted Rotor Freq.CPM
291			9.1	-	9.1*	9.1	9.1*	9.1*	-	9.1	546	580
	2	9.6	-	-	-	-	-	-	-	-	-	2P
			11.0	-	12.5	12.8	12.4	12.4	11.0 ○	12.5	750	770
	3	14.4	14.7	-	14.8	14.7	14.8	14.8	-	14.8	-	3P
			16.4 *	16.4○	15.8	16.0	15.8○	15.8○	16.4 □	16.0	965	910
			18.4 □	18.4△	18.4△	18.4△	18.4	18.4	18.4	18.4	1104	+
	4	19.2	19.8 ○	19.8*	19.8○	19.8*	19.8□	19.8△	19.8 △	19.8	-	4P+
			21.4 △	21.0	21.4	21.4○	21.4	21.4	-	21.4	1284	1320
			22.8	22.8□	22.8□	22.8□	22.8△	22.8□	22.8 *	22.8	1368	
305			9.3	-	9.4*	-	9.4*	9.4*	9.8	9.5	568	590
	2	10.2	-	10.3	-	11.0	-	-	-	10.6	-	2P
			-	-	13.6	13.6	13.6	13.6	-	13.6	816	795
	3	15.3	-	-	14.6	14.8	14.6	14.6	-	14.6	-	3P
			-	-	16.6	16.6	16.6	16.6	-	16.6	996	925
			-	17.5	17.6	17.6	17.6	17.6	17.6	17.6	1056	u
			-	-	18.6	18.6	18.6	18.6	18.6	18.6	1116	+
			19.8 □	19.6○	19.6	20.1□	19.8	19.6○	19.8 △	19.8	1188	+
	4	20.4	21.1 *	21.1*	21.1△	21.1*	21.1□	21.1	21.1 *	21.1	-	4P
			22.5 △	22.4□	22.6	22.4○	22.6	22.6△	22.6 ○	22.5	1352	1320
			24.1 ○	24.1△	24.1□	24.3△	24.1△	24.1□	24.3 □	24.2	1452	
324			-	-	9.0*	9.4	9.0*	9.0*	9.4	9.0	540	595
	2	10.8	-	10.4△	-	-	-	-	-	10.4	-	2P
			-	-	14.4	14.4	14.4	14.4	-	14.4	864	815
	3	16.2	-	-	17.4	17.4	17.4	17.4	17.4	17.4	1044	940
			18.6 △	18.4○	18.4△	18.4△	18.4○	18.4□	18.4 △	18.4	1104	+
	4	21.6	20.9 *	20.9*	20.9□	20.9*	20.9□	20.9△	21.4 *	20.9	-	4P+
			23.1 □	22.4□	-	23.0□	- △	23.0○	23.0 □	23.0	1380	1410

LEGEND:

Response Order
- * Highest
- □ 2nd Order
- △ 3rd Order
- ○ 4th Order

Response I.D. (Last Column)
- 2P, 3P, 4P - Rotor Harmonic
- + Assumed Airframe Mode
- Value (XXXX) - Blade Natural Frequency
- u - Unidentified Response

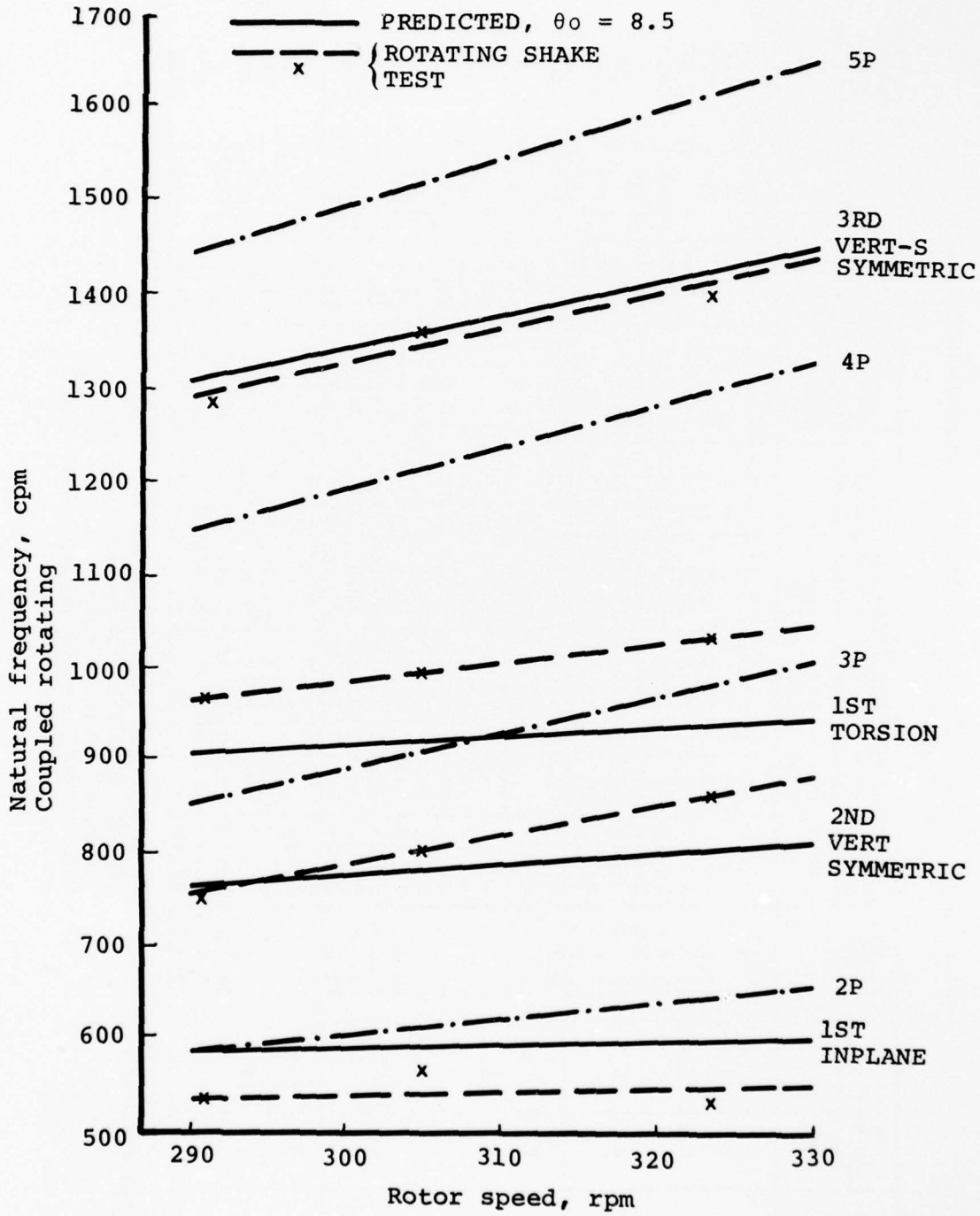


Figure 28. Comparison of AH-1G rotating shake test results with predicted rotor frequencies.

results are also shown in Figure 26 for comparison with rotor run-up test results. Close agreement between rotor run-up, SCAS actuator shake test and predicted results is shown for all frequencies in the range of excitation.

4.2 SHAKE TESTS

Ground vibration tests were conducted on the flight test helicopter after the flight testing was completed. The tests were conducted in four parts. The AH-1G airframe low-frequency vibration response characteristics were obtained in the first part. The AH-1G support system vertical and inplane impedance characteristics at the rotor hub were determined in the second part. Parts three and four measured the control system static spring rate and dynamic response characteristics.

4.2.1 Airframe Frequencies and Mode Shapes

Data for part one tests were obtained, for comparison with results from analyses, by using a three-dimensional NASTRAN model of the AH-1G helicopter. The helicopter was suspended from the main rotor hub by a long cable and a soft bungee. (The bungee was removed for the lateral and fore-and-aft hub shakes.) The suspension system was intended to support the helicopter in a way that would allow free vibration of the airframe in the manner that it would vibrate in flight. The vertical mode of the helicopter on the suspension system with bungee was below 1.3 Hz and should not affect the airframe vibration response at higher frequencies (4 Hz and above). The main and tail rotors were replaced with dummy hubs that were ballasted to represent the rotor weights. Two helicopter weight configurations were tested: clean wing and inboard wing stores.

The shake tests were run with a single sinusoidal applied force and sweeping frequency from 2 to 40 Hz. NASTRAN frequency response results were used as a guide in the testing. The test conditions used for correlation are the following:

Applied Force Direction/Location	Configuration
Vertical/tail (FS 485)	Clean wing
Vertical/tail	Stores
Lateral/tail	Clean wing
Lateral/tail	Stores
Vertical/hub	Clean wing
Lateral/hub	Clean wing
Fore-and-aft/hub	Clean wing

After a frequency sweep was completed, a dwell was done at frequency response peaks to obtain forced response mode shape data.

Response was measured by accelerometers distributed along the airframe, and the force was measured by transducers located between the airframe and the shaker. The accelerometer locations used in the tests are shown in Figure 15. These locations were chosen to correspond closely with grid points in the NASTRAN math model.

A bungee was used for the vertical hub shake, and a stiff cable was used alone for the lateral and longitudinal hub shake tests. This was done to minimize the effect of the suspension system on hub vibration when shaking horizontally at the hub. It was assumed that vertical response horizontal shaking at the hub is not significant; if it is significant, then the stiff cable suspension could affect the response.

Accelerometer and force transducer data were reduced on-site to monitor the testing and off-site to obtain complete results for correlation with the NASTRAN analysis.

The on-site data reduction was used to monitor the testing and check the digital data reduction technique. Frequency response plots were made for a few accelerometers. These plots, along with a mode shape meter, were used to locate dwell frequencies for taking mode shape data.

The principal analysis of this portion of the shake test was done under contract NAS1-13801 and is reported in Reference 9.

4.2.2 Hub Mobility and Airframe Harmonic Response Tests

Tests for part two were conducted to determine the dynamic characteristics of the airframe at the rotor hub (i.e., the rotor hub mobility) and the dynamic response of the airframe at all frequencies to inplane and vertical hub shears. Particular emphasis was placed on the airframe response to hub shears at the frequencies of the principal rotor harmonics. The test procedure with regard to frequency sweep, force levels, and instrumentation sensitivity was the same as in the part one tests. In this case, however, the frequency sweeps for each excitation direction were repeated with successively increased force levels at each frequency segment.

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[9]Cronkhite, J. D., "Correlation of AH-1G Airframe Test Data with a NASTRAN Mathematic Model," Bell Helicopter Textron Report 699-099-016, Fort Worth, Texas, February 1976.

Mode shapes at the airframe natural frequencies were obtained at suitable force levels. Mode shapes (i.e., airframe responses) at the frequencies of the principal rotor harmonics were obtained for three successively increasing force levels. The airframe and harmonic mode shapes were obtained with the full rotor mass installed. The airframe mobility at the rotor hub was obtained with and without the rotor mass for excitation in the longitudinal and lateral directions (inplane hub mobility). The vertical hub mobility was only determined with the rotor mass installed.

4.2.3 Static Control System Spring Rate Tests

Tests were conducted during this phase to determine the main rotor control system static spring rate and the effects of control position, swashplate orientation, and external loading.

Early tests were conducted by loading the pitch links to maximum load (1000 pounds) in compression, reading the scale deflections (using a transit) and pitch link loads (using a digital voltmeter) then successively reducing the load in 100- or 200-pound increments to zero, and then increasing the load, incrementally, to maximum in tension. The scale deflections and pitch link forces were read and tabulated for each increment of load. Deflections in the vertical plane at the pitch axis and at each pitch link attachment were obtained.

Using the maximum compressive loading as the starting point resulted in the introduction of hysteresis in the compressive branch of the curve. Sufficient loads were therefore not available to adequately determine the system static spring rates for compressive loading. The compressive load data were nevertheless faired, taking the hysteresis into account so far as practicable, tabulated and evaluated with other data taken during the tests. Having identified this condition, all future tests were conducted by incrementally increasing the load from zero to maximum whether in tension or compression.

Preliminary load/deflection curves were graphed at the conclusion of each test. The graphs were constructed using pitch link deflections (relative to an unloaded reference) and pitch link load in volts. The control system spring rate was determined using the faired slopes from these graphs and an uncorrected (for load fixture rotation) pitch arm radius. For the initial tests, very little difference was observed in the control system spring rate computed from red or white pitch link data. Consequently, the red pitch link deflections and loads were used for all preliminary test evaluations.

At the conclusion of the symmetric loading tests, graphed data were assessed to determine "stiff" and "soft" control positions.

For the full-up and full-down collective stick positions (neutral cyclic), preliminary control system spring rates were obtained that were approximately 328,000 and 407,000 in-lb/rad, respectively. With the collective stick full down, a maximum spring rate of 475,600 in-lb/rad was obtained for the cyclic stick in the full forward and full right position. A minimum spring rate of 338,000 in-lb/rad was obtained for the cyclic stick in the full-aft and neutral lateral position. Using these data, a "soft" control system was identified for the full-up collective and full-aft and full-left lateral cyclic control positions. A "stiff" system was identified for the full-down collective and full-forward and full-left lateral cyclic control positions. The spring rates for the "soft" and "stiff" control positions were found to be 15 percent softer and 20 percent stiffer, respectively, in comparison to the current AH-1G control system static spring rate of 396,000 in-lb/rad used in analyses.

Load deflection tests for several control positions were repeated for cyclic loading. For loads above 400 pounds (tension in either link), swashplate and mast rotations occurred, and the control system could no longer be loaded. It would have been necessary to load the drive system in torque and/or clamp the rotating swashplate to the fixed swashplate, or restrain the mast in rotation to prevent this condition from occurring. A fixture was designed for the control system dynamics tests to clamp the main rotor mast to the exciter support tower. Although the airframe would be partially suspended for these tests, the restraint due to airframe yaw inertia and ground support was thought to be adequate to prevent the rotation. Since no other method was available without probable damage to the aircraft or within realistic cost and/or schedule limitations, it was decided to use this procedure for the asymmetric loading tests. Due to build-up time, the tests were deferred until after the dynamic tests. However, based on the assessment of data at the conclusion of the dynamics tests, there was little reason to expect anything different for the asymmetric loading case. Hence, the decision was made to omit these tests.

Load/deflection tests were conducted for the swashplate orientations required by the test plan. These tests were conducted for the "soft" and "stiff" control positions only. Test procedures were identical to those noted above. Preliminary results, using red pitch link data, showed no significant effect due to swashplate orientation. ALL static load/deflection tests were conducted with the helicopter boost system ON.

4.2.4 Control System Dynamic Tests

Tests were conducted during this phase to determine the main rotor control system dynamic characteristics at the pitch link

(input side) and to measure the control system damping. During these tests, the airframe was suspended on a cable from an overhead crane. The suspension was required to facilitate alignment of the airframe and controls with the excitation hardware. Wooden pallets were installed under the ship's skid gear to provide a ground support.

Excitation of the controls was provided by a single electromagnetic exciter attached to the load fixtures through exciter output tubes. The main rotor mast was clamped to the exciter tower to prevent rotation of the mast and swashplate during loading. Lead weights (up to 600 pounds) were installed in the load fixture to provide steady loading of the controls. For asymmetric loading, the two exciter output tubes were attached directly to the shaker head. For symmetric loading, a crank assembly was installed to the exciter support platform and to the shaker head. The exciter output tubes were installed between the crank and load fixture assemblies.

The impedance head (for force and monitoring control) was installed between the right-hand output exciter tube and the load fixture (white pitch link). This was not the ideal installation for force servo control; however, no better location could be achieved with standard AH-1G pitch links and available test hardware. In addition, while this led to the introduction of spurious load fixture and support system dynamic responses in the data, the major control system dynamics could still be identified.

A frequency sweep from 4 to 50 Hz was conducted for each test. The white pitch link acceleration mobility (i.e., pitch link acceleration/pitch link force) was plotted on-line. Additional data were recorded on the ship and control room data acquisition systems. The steady-state responses of the controls and airframe were obtained and recorded at each of the principal response maximums observed during the tests.

Tests were conducted for one swashplate orientation only, since preliminary evaluation of static spring rates implied very small swashplate orientation influence. Two system preloads, 300 and 600 pounds, were tested at each of the "soft" and "stiff" control positions.

The control system damping was determined for two system preloads, of 150 pounds and 300 pounds, by transiently exciting the system with a hard rubber mallet. Three mallet strikes (of sufficient magnitude) were obtained and recorded for each condition tested. All tests were conducted with the ship's boost system ON.

Additional details of the hub, airframe and control system shake tests are reported in Reference 10.

4.3 FLIGHT TESTS

4.3.1 Basic Flight Envelope

Data were recorded in the following test areas:

1. Rotor aerodynamics for IGE and OGE hover.
2. Center-of-gravity effects on level flight airspeeds.
3. Retreating blade and control system behavior during high-speed maneuvers.
4. Maneuver load factor.
5. Rotor aerodynamics in power transitions.

Testing was conducted in three phases: the operating envelope expansion, light gross weight flights and heavy gross weight flights. The flight conditions are listed in Tables 11, 12 and 13 and include IGE/OGE operations, level flight, nonfiring maneuvers, simulated gunnery maneuvers, and transitions. The majority of tests were conducted at neutral center of gravity (±1 in.) except as specified for selected conditions. The nominal main rotor operating speed was 324 rpm.

Testing was conducted in moderate atmospheric conditions to ensure repeatable data. Data were recorded when the helicopter was in a stabilized flight condition except during maneuvers and autorotation where these conditions were data points.

Hovering performance tests were conducted as a function of skid height above the ground. The test conditions were:

	Skid Height (ft)	RPM	Altitude above Sea Level
IGE:	4, 15	324	630 ft
OGE:	50,100	324, 314	

Level flight performance was measured for neutral, forward and aft cg. The rotor speed was 324 rpm, and the density altitude was 5000 ft.

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[10]White, J. A., "Model AH-1G Airframe Control System Ground Vibration Test Results," Bell Helicopter Textron Report 299-099-819, Fort Worth, Texas, April 1976.

TABLE 11. FLIGHT CONDITIONS AND COUNTER NUMBERS FOR BASIC PROGRAM

G.W.:	8100 lb (clean)			9000 lb (HOG)		
C.G.:	Fwd	Mid	Aft	Fwd	Mid	Aft
Flight Condition	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr
Normal start	-	45C 1084	-	-	-	-
Normal shutdown	-	45A 1053	-	-	-	-
Normal takeoff	-	45C 1085	-	-	-	-
Normal acceleration	-	45C 1087	-	-	-	-
Normal deceleration	-	45A 1048	-	-	-	-
Normal landing	-	45C 1099	-	-	-	-
Hover, IGE (4 ft)	-	45C 1098	-	-	31A 535	-
Hover, OGE (100 ft)	-	45B 1078	-	-	37B 685	-
Forward flight, 0.5 V_h	45C 1088	43 860	35A 611	35B 618	36A 636	37A 676
Forward flight, 0.6 V_h	1089	863	612	619	637	677
Forward flight, 0.7 V_h	1090	864	613	620	638	678
Forward flight, 0.8 V_h	1091	865	614	621	639	679
Forward flight, 0.9 V_h	1092	868	615	622	640	680
Forward flight, 1.0 V_h	45C 1093	43 869	35A 610	35B 617	36A 635	37A 675
Climb at 1100 shp	-	22A 367	-	-	-	-
Maximum level flight acceleration	-	22A 377	-	-	-	-
Pullups	-	32A 562	-	-	-	-
Pushovers	-	563	-	-	-	-
Gunnery dive	-	568	-	-	35C 626	-
Gunnery dive, left pullout	-	569	-	-	625	-
Gunnery drive, right pullout	-	571	-	-	35C 627	-
Gunnery drive, symmetrical pullout	-	32A 567	-	-	31 538	-
Power to autorotation	-	45C 1094	-	-	-	-
Autorotation to power	-	45C 1095	-	-	-	-
Partial power descent	-	45A 1047	-	-	-	-

TABLE 11. (CONCLUDED)

G.W. →	8100 lb (clean)			9000 lb (HOG)		
C.G. →	Fwd	Mid	Aft	Fwd	Mid	Aft
Flight Condition	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr
Left turn, 1.5g	-	32A 559	-	-	31 547	-
Left turn, 1.7g	-	↕ 560	-	-	35C 631	-
Left turn, 2.0g	-	32A 561	-	-	31 549	-
Right turn, 1.5g	-	32A 556	-	-	35C 628	-
Right turn, 1.7g	-	↕ 557	-	-	↕ 629	-
Right turn, 2.0g	-	32A 558	-	-	35C 630	-

TABLE 12. FLIGHT CONDITIONS AND COUNTER NUMBERS FOR NOE MANEUVERS

Flight Condition	G.W.→ 8100 lb C.G.→ Mid Flt/Ctr	9000 lb Mid Flt/Ctr
Hover OGE (50')	37D 722	37B 685
Hover OGE (100')	723	-
Pop up IGE to 50' OGE	722	37B 705
Pop up NOE flight to 50' OGE	743	685
Forward flight @ 50'@ 10 kn	724	686
Forward flight @ 50'@ 20 kn	725	687
Forward flight @ 50'@ 30 kn	726	688
Forward flight @ 50'@ 40 kn	727	689
Forward flight @ 50'@ 50 kn	728	690
Descend from 50' OGE to IGE	742	704
90° right turn & accel to 70 kn	744	708
90° left turn & accel to 70 kn	746	709
Deceleration from 50 kn to OGE hover @100'	729	691
Deceleration from 50 kn to OGE hover @100'-level att.	745	707
360° turn @50' record at 210°	731	693
240°	732	694
270°	733	695
300°	734	696
330°	735	697
0°	736	698
30°	737	699
60°	738	700
90°	739	701
120°	740	702
150°	741	703
180°	730	37B 692
Right sideward flight @ 30 kn with deceleration	717	37C 711
Dir. reversal and acceleration to 30 kn left sideward flight	718	712
Left sideward flight @ 30 kn with deceleration	720	713
Dir. reversal and acceleration to 30 kn right sideward flight	37D 721	37C 714

TABLE 13. FLIGHT CONDITIONS AND COUNTER NUMBERS FOR NOISE LEVEL TEST

Flight Condition	Airspeed - Knots												
	40	50	55	60	65	70	75	80	90	100	110	120	130
Level flight	856	857	858	859	860	361	862	863	864	865	866	868	869
Climb @100 FPM	945	957	-	967	978	1022	-	1031	-	-	-	-	-
Climb @200 FPM	944	958	-	-	-	-	-	-	-	-	-	-	-
Descend @100 FPM	946	959	-	968	979	1023	-	1032	-	-	-	-	-
Descend @200 FPM	947	960	-	969	981	1024	-	1033	1040	1044	-	-	-
Descend @300 FPM	950	961	-	970	984	1025	-	1034	-	-	-	-	-
Descend @400 FPM	951	962	-	972	983	1026	-	1035	1041	1045	-	-	-
Descend @500 FPM	952	963	-	974	985	1027	-	1036	-	-	-	-	-
Descend @600 FPM	954	964	-	975	986	1028	-	1037	1042	1046	-	-	-
Descend @700 FPM	955	965	-	976	987	1029	-	1038	-	-	-	-	-
Descend @800 FPM	956	966	-	977	988	1030	-	1039	1043	1047	-	-	-
Descend @900 FPM	-	-	-	-	989	-	-	-	-	-	-	-	-
Descend @1000 FPM	-	-	-	-	990	-	-	-	-	-	-	-	-

TABLE 13. (CONCLUDED)

Flight Condition	Airspeed - Knots											
	40	50	60	65	70	75	80	90	100	110	120	130
Level flight @300 ft	1065	-	1066	-	-	-	1067	-	1068	-	1070	1073
Descend @100 FPM	-	1056	-	-	-	-	1062	-	-	-	-	-
Descend @200 FPM	-	-	-	1060	-	-	-	-	-	-	-	-
Descend @400 FPM	-	-	-	1061	-	-	-	-	-	-	-	-
Descend @600 FPM	-	1058	-	-	-	-	1064	-	-	-	-	-

	Airspeed - Knots		
	140	150	165
Dive and level out @100 ft	1109	1110	1105
Dive and level out @200 ft	-	-	1111
Dive and level out @300 ft	1103	1108	1106

	Azimuth Location of Microphone			
	0°	90°	180°	270°
IGE Hover @5 ft	1075	1076	1077	1074
OGE Hover @100 ft	1080	1081	1078	1079

Flt. No.	Ctr. No.	
43A	856 → 869	Airborne Tests
44C	944 → 990	
45A	1022 → 1053	
45B	1055 → 1081	Airborne and Ground Tests
45C	1084 → 1101	
45D	1103 → 1111	

The maneuvers were performed at a density altitude of approximately 4000 feet. Optimum maneuver entry speeds were determined during the envelope expansion flights. The main rotor operating speeds were as follows:

Power on	314 to 324 rpm
Power off	294 to 339 rpm

Any maneuver was considered culminated when any limit as specified by the AH-1G Operating Manual was attained or encountered.

4.3.1.1 Envelope Expansion

For safety, the operating envelope was gradually expanded in the initial flights to the limits set for the program. The flight conditions included normal start, normal shutdown, steady hover, normal acceleration, normal deceleration, normal landing, forward flight to maximum attainable airspeed, and selected maneuvers at various 'g' loadings. These tests were conducted at 8100 pounds gross weight to provide the greatest maneuver margins for safety considerations. The maximum dive airspeed for the instrumented rotor was 165 kn indicated. The limiting item was beam bending at station 132. A speed course calibration was conducted to calibrate the nose boom pitot system prior to flying the level flight conditions. The envelope expansion phase proceeded without any problems. The rotor blades tracked and balanced easily even though changes had been made to the airfoil contour, the mass distribution and the weight. The handling qualities or vibration levels of the ship were not affected by the changes. The blade load limit for the main rotor reduced the maximum dive speed relative to a standard AH-1G by 15 knots. A few flights were made with minor tip weight and/or blade tab setting changes in an attempt to reduce the loading, but they were not successful.

The expansion phase also included a series of instrumentation checkout flights. The instrumentation system functioned as designed with no fundamental problems. During the initial flying, there was a variation in excitation voltage that occurred randomly. There were two independent supplies, one to each half of the R-MUX. The voltage regulators for the two power supplies were remounted in the cannister, and their outputs were monitored. Isolation mounting solved the problem. The average rate of inoperative transducers picked out in preflight for a given data flight was 5%. Some of the hot-wire sensors were broken during flight but were repaired before the next flight. Thirteen individual pressure transducers failed during the flight test period. Seven were replaced with spare units. The primary pressure transducer problem was shorting in the wiring of the temperature compensation circuit.

4.3.1.2 Light Gross Weight

The second phase of the basic flight test was performed with a light gross weight, and a clean configuration (no external stores). The gross weight was 8100 lb. This was the primary gross weight for most of the testing. Flight conditions are given in Table 11.

4.3.1.3 Heavy Gross Weight

The third phase was performed with a heavy gross weight, and a HOG configuration (with external stores). The gross weight was 9000 lb. with external stores. Flight conditions are given in Table 11.

4.3.2 Nap-of-the-Earth Tests

Flight tests were performed to acquire aerodynamic and structural loads data while simulating nap-of-the-earth (NOE) maneuvers. The two gross weights, 8100 and 9000 lb, at neutral cg were tested. The flight conditions are listed in Table 12 and include OGE hover, pop-up maneuvers, sideward flight, descents, ascents, turns and stops. All maneuvers were performed over an asphalt runway to minimize ingestion of debris into the instrumented rotor. The initial testing consisted of practicing the maneuvers in a build-up fashion to the desired rates and speeds. Data flights were flown after satisfactory completion of the practice flights.

4.3.3 Acoustics Tests

Additional flight tests were performed to acquire simultaneously rotor acoustics and airloads data. Fuselage-mounted microphones and a ground-based microphone array were used to measure noise. The flight included a range of mid airspeeds from 30 to 90 knots and descent rates from 0 to 1000 fpm, and level flight airspeeds up to 165 kn. Testing was conducted in atmospheric conditions of minimum turbulence and low surface winds. Flight conditions are given in Table 13.

4.4 PRIME DATA AND TELEMETRY

For each helicopter configuration, the required flight test condition was set up and all prime data recorded on the on-board tape deck. After the tape was started and as soon as the required test condition was set up, the pilot marked the portion of the recordings taken during the test condition by pressing a prime data button on the cyclic control stick.

Continuous instrumentation output recordings, from engine start to engine shutdown, were made for the basic flight envelope and

the NOE tests. Data taken during a required test condition were made identifiable by a change in data level code and by means of a time code. This change to "prime" data level was effected by the pilot upon establishing the required flight condition. Since a much higher tape speed had to be used for the acoustics tests, only prime data were taken. The recorded data are identified by flight number (FLT) and counter number (CTR). The FLT record was updated every day on which flying was conducted. Letters following the FLT identify the sequential order of flights for a specific day. Each time a prime data record was taken, the CTR was automatically updated. Both the pilot and observer were kept informed on the upcoming record number by visual display.

Indicator lights were installed in both the pilot's and gunner's cockpit to inform the flight crew of the status of the tape recording system. Direct radio communications were maintained between the flight crew and the Ground Data Center.

Flight regimes that were known to be potentially hazardous, such as those areas in the H-V diagram where no successful autorotation can be executed in case of an emergency, were avoided. All flight regimes were within the established operating limitations of the basic helicopter.

During the flight, critical safety parameters were telemetered to the Ground Data Center, where they were monitored by qualified personnel. The flight crew was notified immediately if vibration and load levels reached structural safety limits.

After each flight, the data tape was played back to make the recorded parameters visible for a quick evaluation of the recorded data. The data tape was then given to the Flight Test Data Reduction Center for further reduction as required. The sampling criteria to determine the quality of recorded data consisted of:

1. Examination of strip-out of bands 1-8 of track 8 and 9-16 of track 17 for all records.

2. Examination of strip-out of all tracks and bands of last record for that flight.

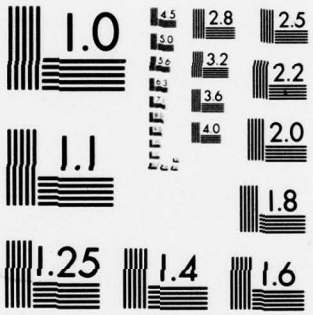
The voltage monitors mentioned in section 4.3.1.1 were on track 17, bands 10 and 11. A strip-out of these items indicated the reliability of the instrumentation system. A review of all items of the last record of a flight ensured the operation of all the transducers during that flight.

AD-A036 910 AH-1G HELICOPTER AERODYNAMIC AND STRUCTURAL LOADS SURVEY(U) BELL HELICOPTER TEXTRON FORT WORTH TEX
G A SHOCKEY ET AL. FEB 77 699-099-017 USAAMRDL-TR-76-39

UNCLASSIFIED DAAJ02-73-C-0105 F/G 1/1 NL

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

5. TEST RESULTS AND CORRELATION

The primary product of this program is a documented data-tape library, consisting of analog and digital magnetic tapes. Continuously and simultaneously recorded time histories of rotor blade airloads, blade bending and accelerations and the resulting control loads, and fuselage vibration responses produced a great volume and large variety of data. Because of the volume of data obtained, the presentation of the results is limited to:

- Samples of each type of data and a brief comparison of the results with theoretical predictions
- A correlation of five representative flight conditions with a theoretical flight simulation program (C81)
- A fatigue evaluation of NOE operations
- A summary of ground vibration testing
- An analysis of airloads and resulting rotor acoustics for selected flight conditions

Data from the magnetic tape library can be readily retrieved and displayed in various formats. These formats can be tailored to meet the specific requirements of the individual areas. The digital tapes have standard labels and are compatible with current-model IBM 370 computers. Access to the data tapes is made available for government and industry users from the Eustis Directorate, USAAMRDL.

5.1 INITIAL EXPERIMENTAL RESULTS

5.1.1 Static Pressure Data

Pressure data for selected test conditions have been reduced to chordwise pressure distributions, spanwise pressure distributions and integrated coefficients. Figure 29 shows the upper and lower surface pressure distributions for several azimuth stations for a level-flight 132-knot condition. As seen in the figure, the pressure distribution on the retreating side approaches the character of two-dimensional data and is at an expected maximum at 270° azimuth. The pressure distribution at 90° shows very little lift and indicates a shock on both upper and lower surfaces. The compressibility effect for several forward speeds is shown in Figure 30. For the 132 knot case, a shock extends over an azimuth range from 50° to 120°. At 102 knots, the compressibility is beginning to appear.

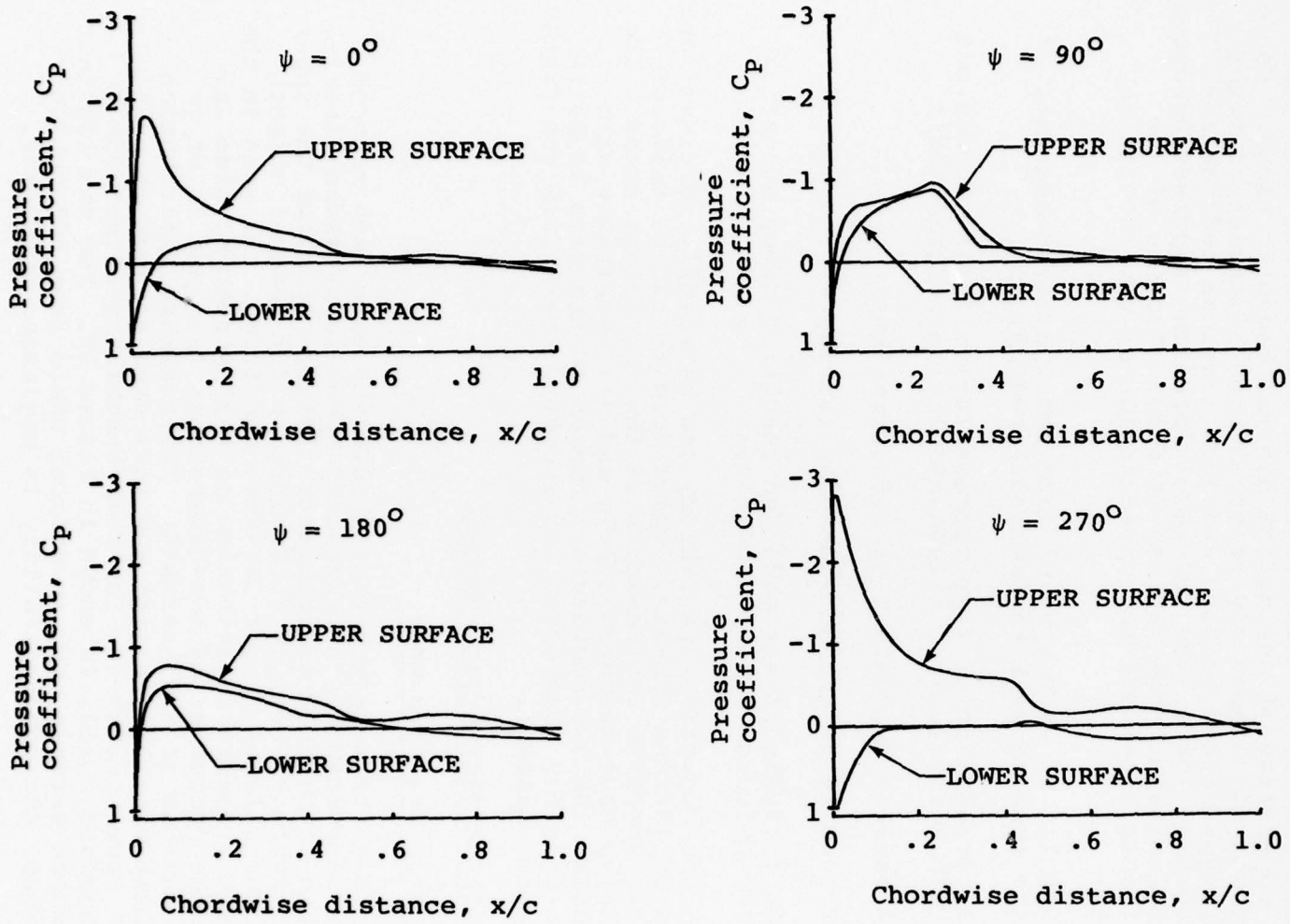


Figure 29. Airfoil static pressure distribution at 132 knots level flight, r/R = .955.

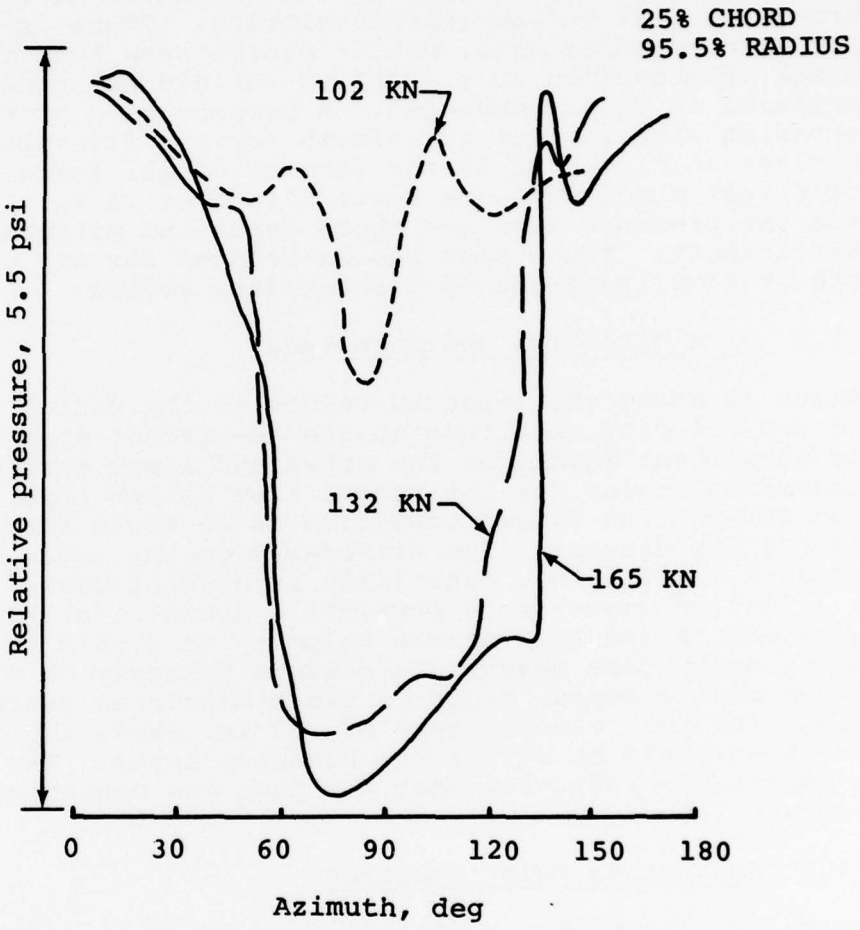


Figure 30. Airfoil absolute pressure in high-speed flight.

Comparison of measured and theoretical normal force coefficients is shown in Figure 31. The theoretical values are calculated using a rotor performance/airloads analysis program, ARAD51, with a trailing tip vortex wake distribution to define nonuniform rotor disk inflow characteristics. There is general agreement with measured data, but it can be seen that the blade/vortex intersection at ψ = 70° to 80° did not produce the variation in C_N as predicted. A presentation of the pressure variation with respect to azimuth for the five span stations is given in Figure 32 in the form of normal force coefficient. The flight conditions are level flight at .8 V_h. Also available from the pressure data are chord force and pitching moment coefficients. These data can be reduced for any desired azimuth or time increment of a prime data record.

5.1.2 Flow Direction and Magnitude

Figure 33 shows the measured values of the radial flow angle and the velocity magnitude at the 80-percent span station and the 60-percent chord for the upper and lower surfaces. The theoretical value for the radial flow on the upper surface is also shown. The flight condition is 80 knots forward speed and 100 fpm descent. The difference in the angle between surfaces is significant, especially in descent cases. This causes an effective camber in a physically symmetrical airfoil. The magnitude of the free stream velocity at 0.864R is 780 ft/sec. The velocity gage measures a maximum velocity of 425 ft/sec. It had been assumed, based on two-dimensional tests, that a height for the velocity gage of .25 in. above the airfoil at 60% chord would be out of the boundary layer. The difference in magnitudes indicates that the gage was measuring flow in the boundary layer.

5.1.3 Stagnation Point Location

Figure 34 illustrates a time history of the leading edge hot wires at the 0.864R blade station during a 200-fpm descent at 65 knots. Extracting stagnation point location from the waveform requires observation of several characteristics. The hot-wire voltage increases as the stagnation point approaches and decreases as it moves away from the wire. Thus, passage over the wire produces a signal peak. A peak will also occur if the stagnation point approaches but retreats without crossing the wire. Therefore, the character of adjacent wire signals must be examined to determine if a peak represents a crossing or a direction change. When this is accomplished, the contour location of the stagnation point can be constructed as a function of time or rotor azimuth.

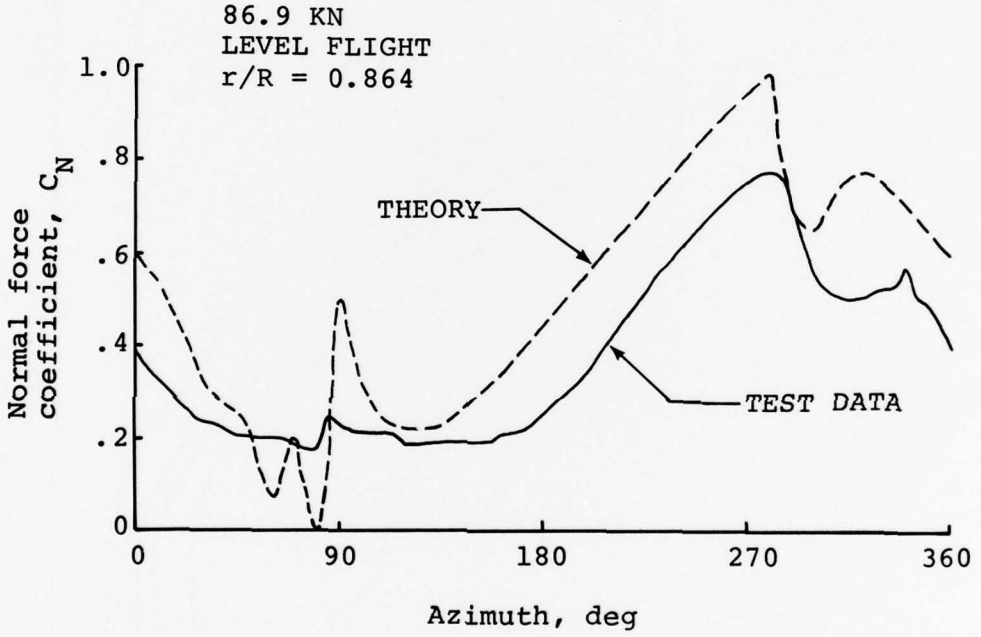


Figure 31. Comparison of measured and predicted normal force coefficient variation.

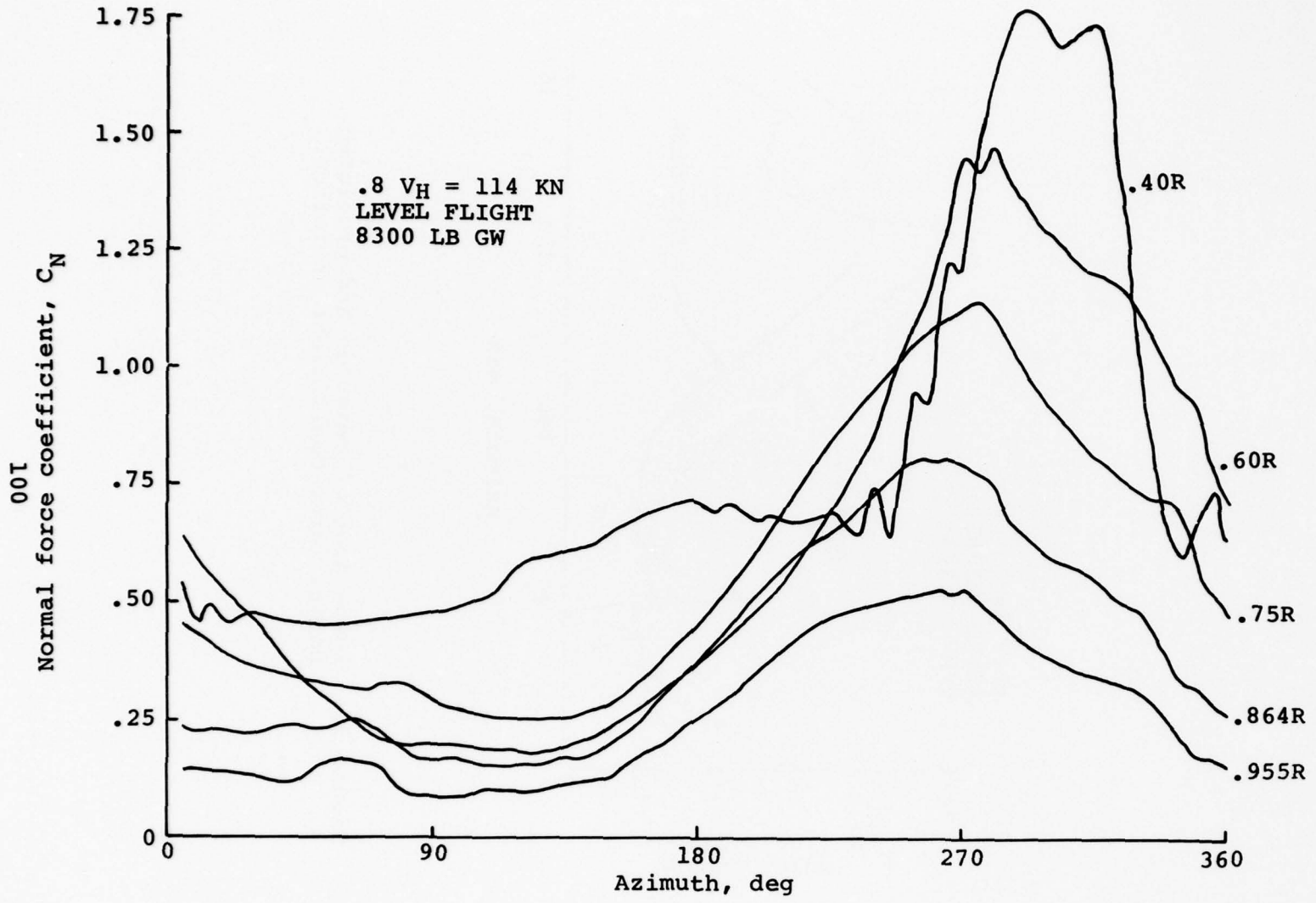
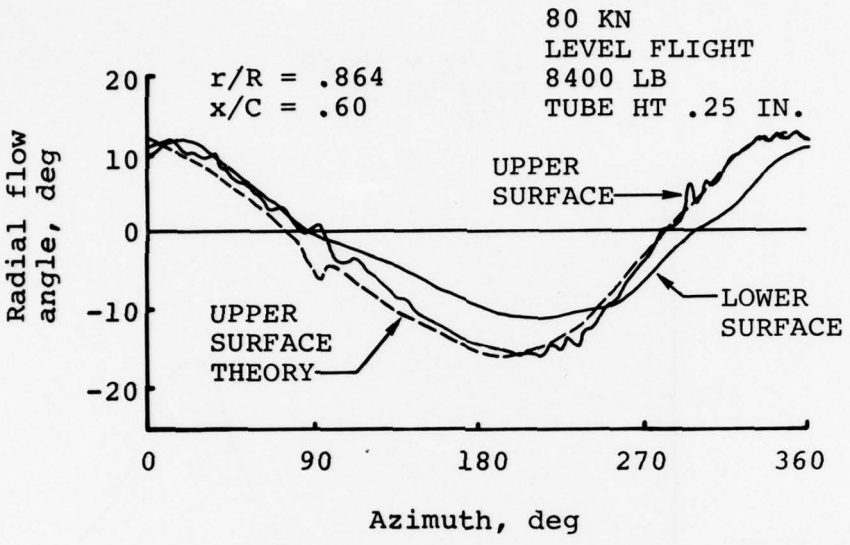


Figure 32. Spanwise normal force coefficient variation.



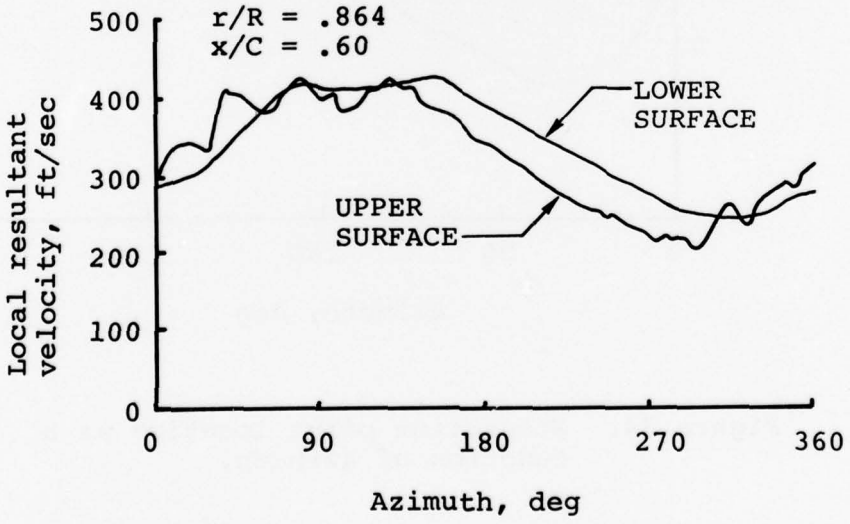


Figure 33. Measured surface flow direction and magnitude.

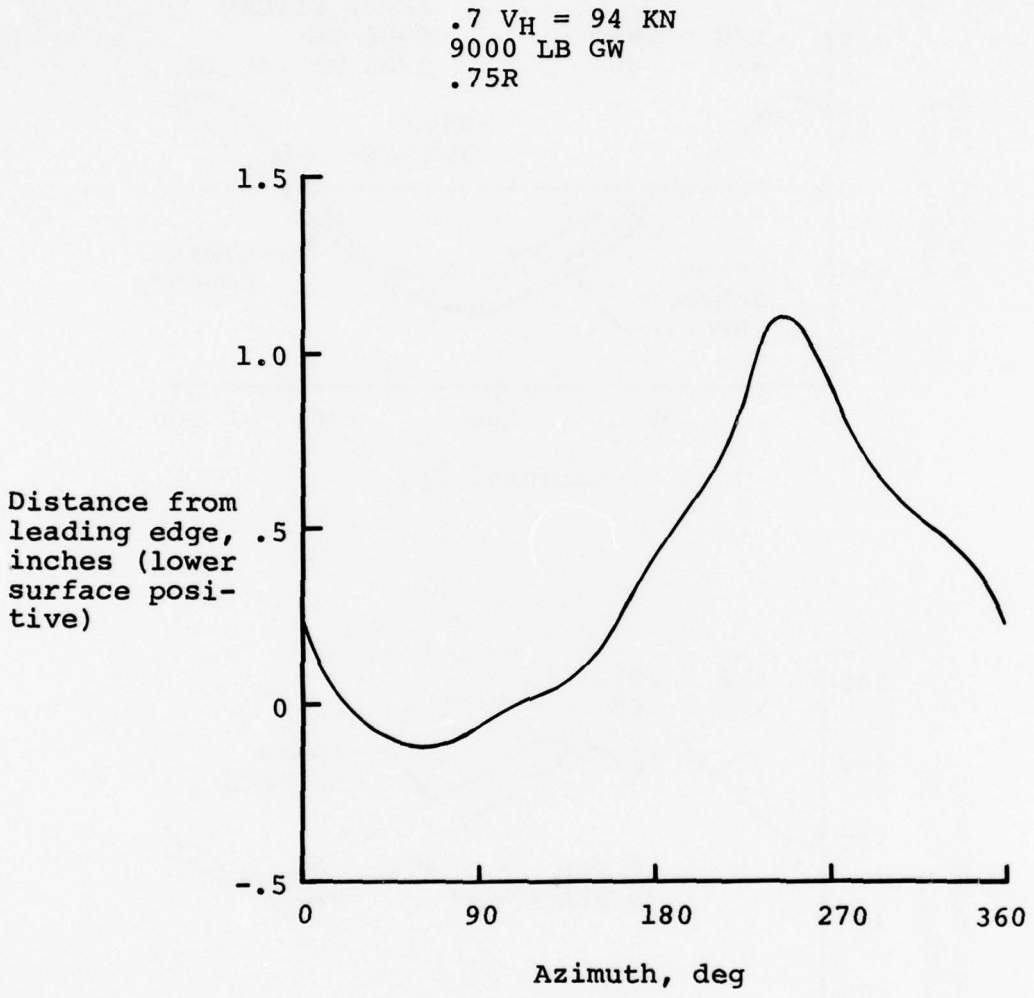


Figure 34. Stagnation point location as a function of azimuth.

5.1.4 Blade Accelerations

Figure 35 is one type of computer output of the BHT harmonic analysis of flight test data. Harmonic amplitudes vs. harmonic numbers for beam and chord vibrations at station 156 were calculated from the blade accelerometer output for a 2.2g left-turn flight condition.

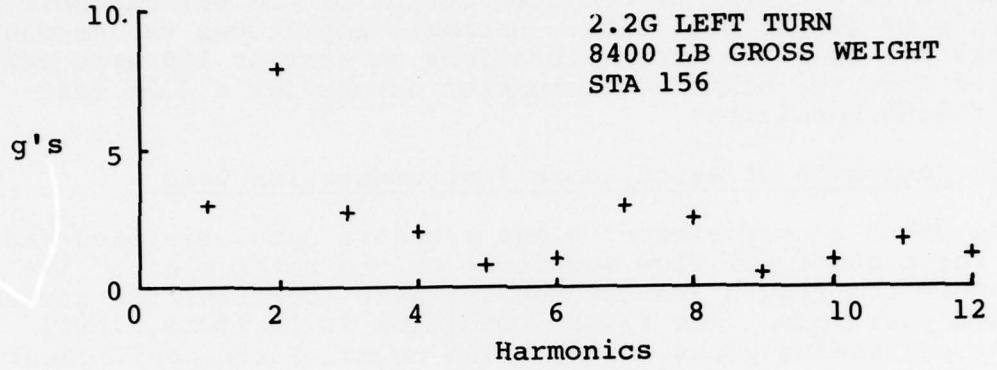
5.1.5 Composite of Aerodynamic Instrumentation Data

Figure 36 is a composite of blade pressure data, measured radial flow angle and local flow magnitude on the rotor blade. Included in the figure are theoretical wake locations for several azimuth positions. The flight condition is 50 knots, level flight and medium gross weight. The normal force coefficient shows an increase in lift at 90° and 260° azimuth, which was not predicted. Analyzing the radial flow angle at these azimuths, it can be seen that the flow suddenly reversed from inboard to outboard on the upper surface. The flow magnitude also shows a marked velocity reduction. Observing the wake intersections with the blade as shown in the figure, it can be assumed that the sudden change in C_N is caused by the wake passage by the blade. The wake changes the resultant velocity, thereby producing unsteady aerodynamic loading on the blade. The figure and this discussion are included as an example of the data that were obtained and as an example of a method of combining them to gain insight into the rotor aerodynamic phenomena.

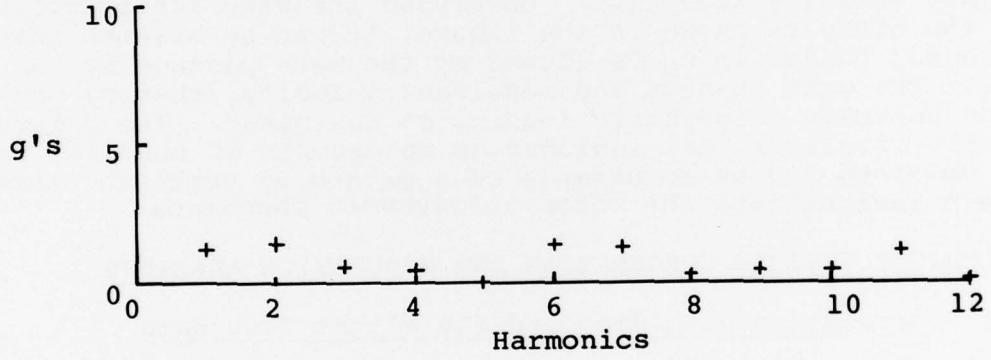
5.2 FLIGHT VEHICLE CORRELATION AND SIMULATION ANALYSES

5.2.1 Correlation with Standard 540 Flight Test Data

Part of the design and test criteria for this analysis was to simulate, as much as possible, the flight maneuvers and characteristics of a standard AH-1G with a model 540 production rotor. Blade frequency placement, contour, cg, etc., were discussed in section 2.2. Flight conditions were listed in section 4.3. The following figures show comparisons of data from the instrumented rotor and a production AH-1G rotor. Figure 37 is a speed-power polar for the instrumented blade and production blade. The gross weights divided by density altitudes are not exactly equal; therefore, several are shown. The power required for the instrumented rotor was definitely not compromised and even appears to be an improvement. Figures 38 and 39 are comparisons of the oscillatory beam and chord bending moments for the rotors at .5 V_H and V_H, respectively. The weights are not exactly the same, but in both cases, the beam bending for the instrumented rotor is a little higher than standard, while it is lower for the chord bending moments. These data are presented to confirm that the method of instrumenting a rotor does allow extensive instrumentation to be



(a) Main rotor beam vibration



(b) Main rotor chord vibration

Figure 35. Harmonic analysis of beam and chord blade accelerations.

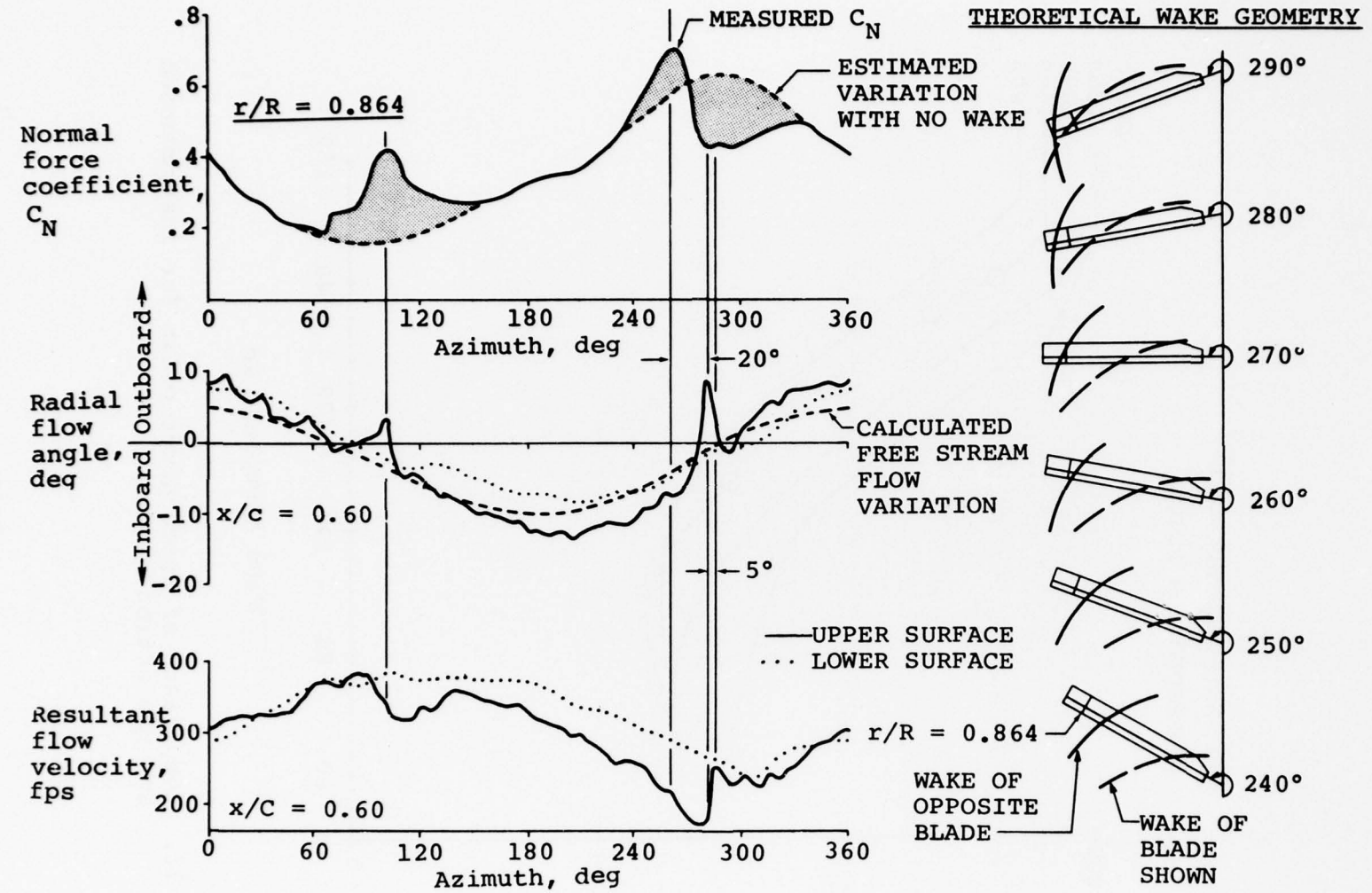


Figure 36. Rotor wake effects at 50 knots level flight.

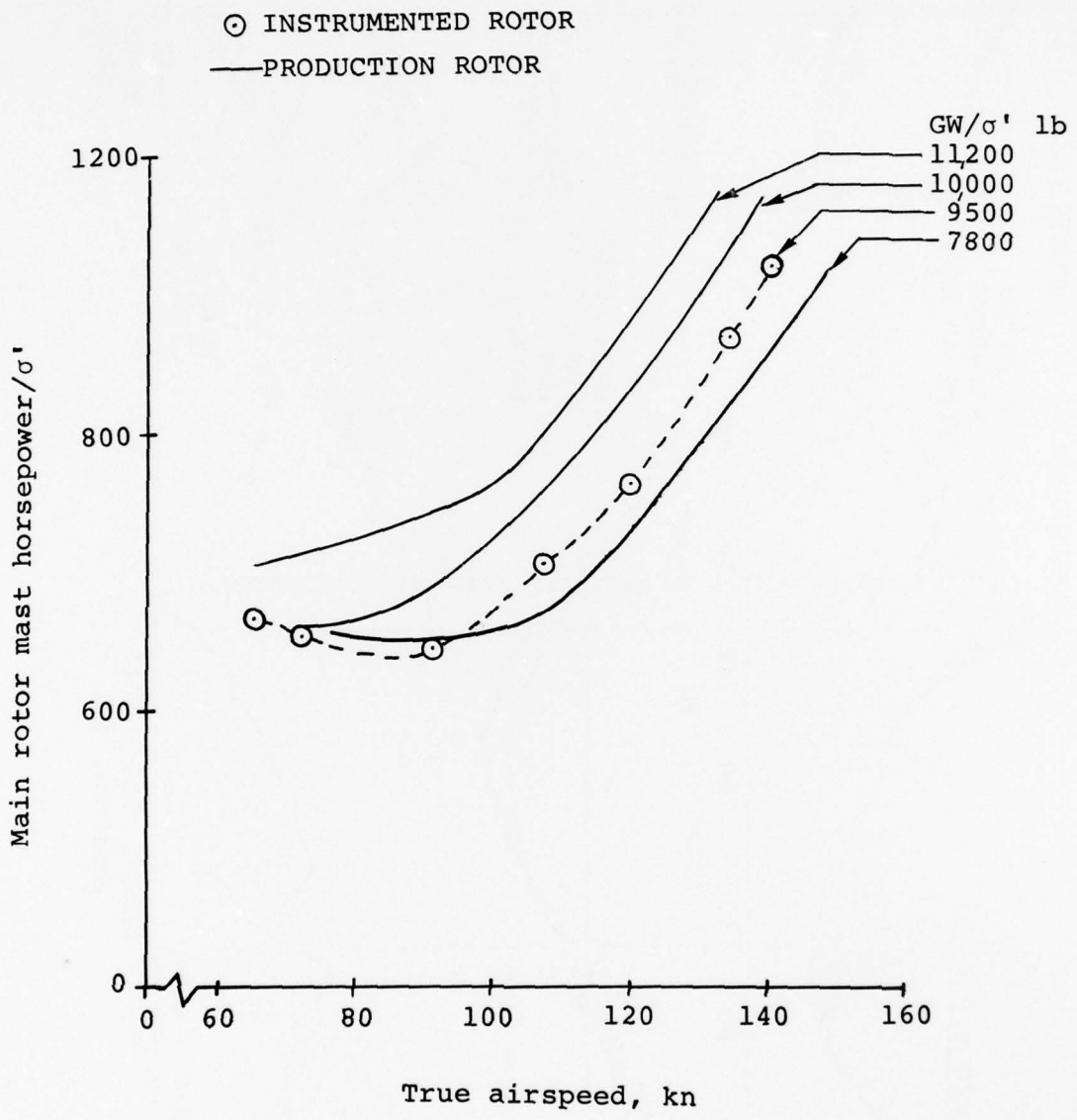


Figure 37. Comparison of speed-power polar for instrumented and production blades.

	GW/σ'	CG STA	VEL	H_d	OAT
⊙INSTRUMENTED ROTOR	9500#	191.7 IN.	.5V_H-140KN	4500 FT	27.7°C
△PRODUCTION ROTOR	10000#	192.4 IN.	.5V_H-144KN	3000 FT	5°C

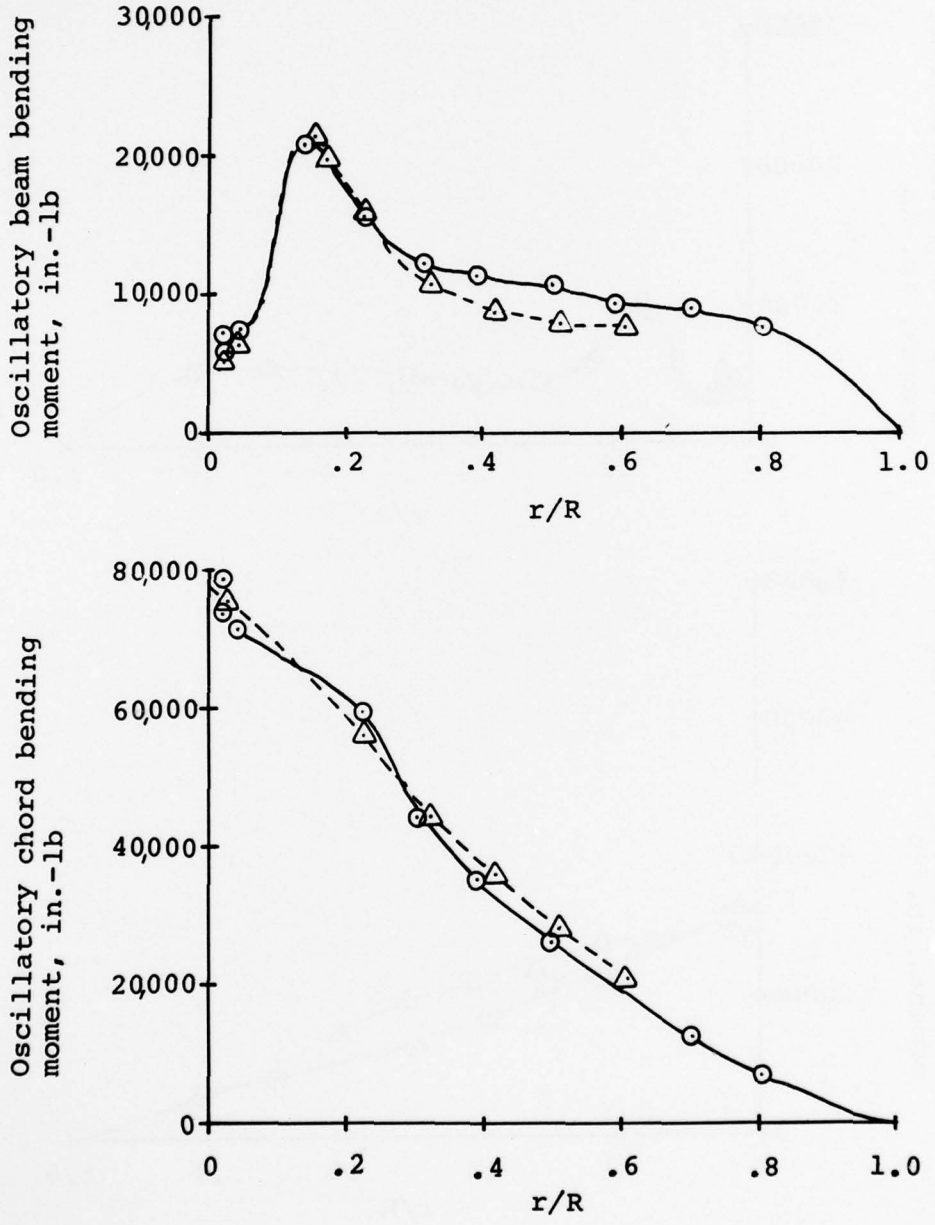


Figure 38. Comparison of bending moments for instrumented and production blades at .5 V_H.

	GW/σ'	CG STA	VEL	H_d	OAT
⊙ INSTRUMENTED ROTOR	9500#	191.7 IN.	.5V_H-66KN	4500 FT	27.7°C
△ PRODUCTION ROTOR	10000#	192.4 IN.	.5V_H-72KN	3000 FT	5°C

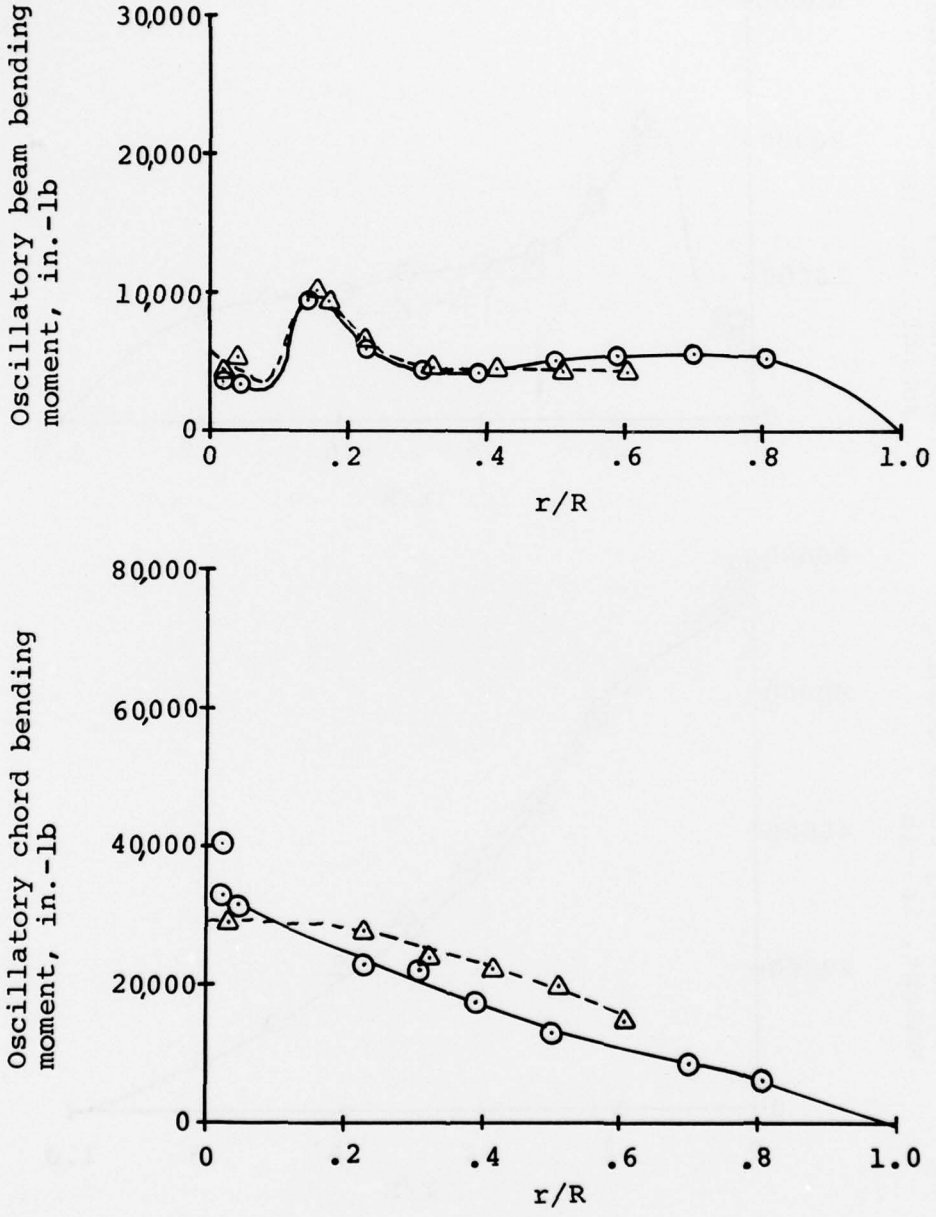


Figure 39. Comparison of bending moments for instrumented and production blades at V_H.

put on while not significantly affecting the rotor performance or loading.

5.2.2 Flight Simulation Analysis and Comparisons

The instrumented AH-1G helicopter was simulated using the current production version of the C81 computer program, AGAJ7407 in level flight and maneuvers. The description of the analysis, simulation model, and results of the comparisons are summarized in this section. The complete discussion is included in Appendix C.

5.2.2.1 General Description of Analysis and Model

C81 is a general-purpose flight-simulation analysis that uses the modal technique for dynamic calculations. The rotor aerodynamics are represented by a quasi-static analysis with semi-empirical induced velocities based on momentum theory. A description of the analysis and an input guide to the computer program are given in Reference 11. The unsteady aerodynamics, UNSAN (Reference 12), and dynamic pylon model options available in the C81 analysis were used in the simulation.

The inputs to C81 describing the Operational Loads Survey for the AH-1G helicopter are listed in Appendix C. The C81 model for the instrumented AH-1G is essentially the same as the standard AH-1G (540) model given in Reference 13 except for differences in the following areas:

- main rotor variations due to the glove and instrumentation
- addition of the rotating multiplexing cannister
- dynamic pylon model
- control riggings

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[11]Davis, J. M., et al., "Rotorcraft Flight Simulation with Aeroelastic Rotor and Improved Aerodynamic Representation," USAAMRDL Technical Report 74-10A, B, & C, U. S. Army Air Mobility R&D Laboratory, Fort Eustis, Va., June 1974, AD782854, AD782756, AD782841.

[12]Gormont, R. E., "A Mathematical Model of Unsteady Aerodynamic and Radial Flow for Application to Helicopter Rotors," Boeing-Vertol, USAAMRDL Technical Report 72-67, U. S. Army Air Mobility R&D Laboratory, Fort Eustis, Va., May 1973, AD767240.

[13]Van Gaasbeek, J. R., "An Investigation of High-G Maneuvers of the AH-1G Helicopter," Bell Helicopter Company, USAAMRDL Technical Report 75-18, U. S. Army Air Mobility R&D Laboratory, Fort Eustis, Va., April 1975, ADA012234.

5.2.2.2 Flight Simulation

Performance and loads were calculated for two level-flight speed sweeps and three maneuvers. A general description is given in Table 14, which gives the flight conditions and helicopter configurations for which the test theory comparisons were made.

5.2.2.2.1 Forward Flight

The C81 computed results were compared to the measured data for two level flight speed sweeps (refer to Table 14). In general, the measured and computed performance parameters, including control positions, helicopter attitudes, power, and main rotor flapping, agree very well. Comparisons of selected performance parameters for the clean wing, aft-cg configuration (Flt. 35A) are shown in Figure 40.

Comparisons of the measured and computed overall oscillatory beamwise and chordwise bending moments yielded the same trends for the two level flight configurations. That is, the oscillatory blade beamwise bending moments for the inboard portion of the rotor are generally overpredicted at low speeds and are underpredicted at high speeds. The outboard beamwise loading is underpredicted at all level flight speeds. The overall oscillatory chordwise bending moments agree very well at low speeds, but C81 increasingly underpredicts with increasing speed. The divergence of measured and computed blade loads with airspeed and spanwise location is shown in Figures 41 and 42. The differences in the comparisons are primarily due to the underprediction of higher harmonic loading. This is clearly shown by the spanwise plots of the beamwise blade load harmonics, Figure 43, and the chordwise blade load harmonics, Figure 44.

There are two apparent reasons for the underprediction by C81 of the higher harmonic rotor blade structural loading. First, C81 is currently limited to a maximum of 6 modes for modeling blade elasticity. Harmonic load components in excess of the frequency limitation (4.7/rev), which is the result of the restricted number of modes, can be significant. Second, the current version of C81 lacks the higher harmonic airloads, which force the higher harmonic dynamic response.

Work is in progress to eliminate or at least reduce both of these problems. The C81 computer program is being updated to accommodate a maximum of 11 blade bending modes. And, an option is available in C81 for the input of rotor-induced velocity distribution tables. However, the use, implementation, and generation of these tables is in a development stage.

TABLE 14. FLIGHT CONDITIONS AND HELICOPTER CONFIGURATIONS FOR TEST-THEORY COMPARISONS

Flt.	Ctr.	Conf.	G.W. (lb)	CG Sta. (in.)	Den. Alt. (ft)	OAT (^{o}C)	Flight Condition
35A	610-615	Clean wing	8320	200.6 (aft)	4341	25.8	Level flight speed sweep (66.7-144.8 kn) $.5V_H$ - V_H
36A	636-640	HOG	9070	196.2 (Neutral)	4153	26.3	Level flight speed sweep (60.9-133.8 kn) $.5V_H$ - V_H
32	558	Clean wing	8400	196.7 (Neutral)	3177	27.5	Level left turn
32	561	Clean wing	8400	196.7	3166	28.2	Level right turn
32	562	Clean wing	8400	196.7	2160	27.6	Symmetric pullup

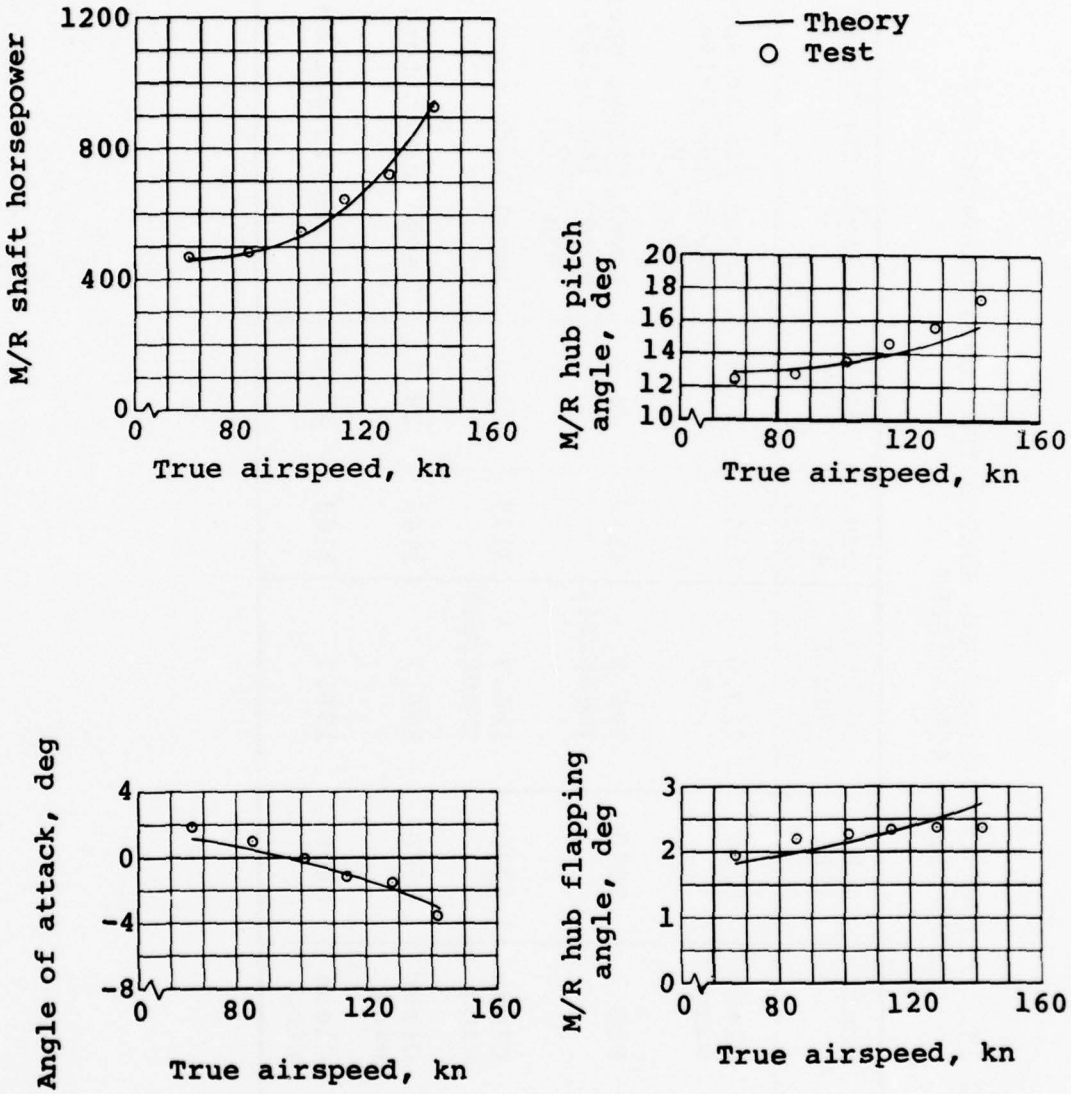


Figure 40. Comparisons of selected measured and computed level flight performance parameters for flight 35A (clean wing configuration, 8320-lb gross weight, aft cg station 200.6).

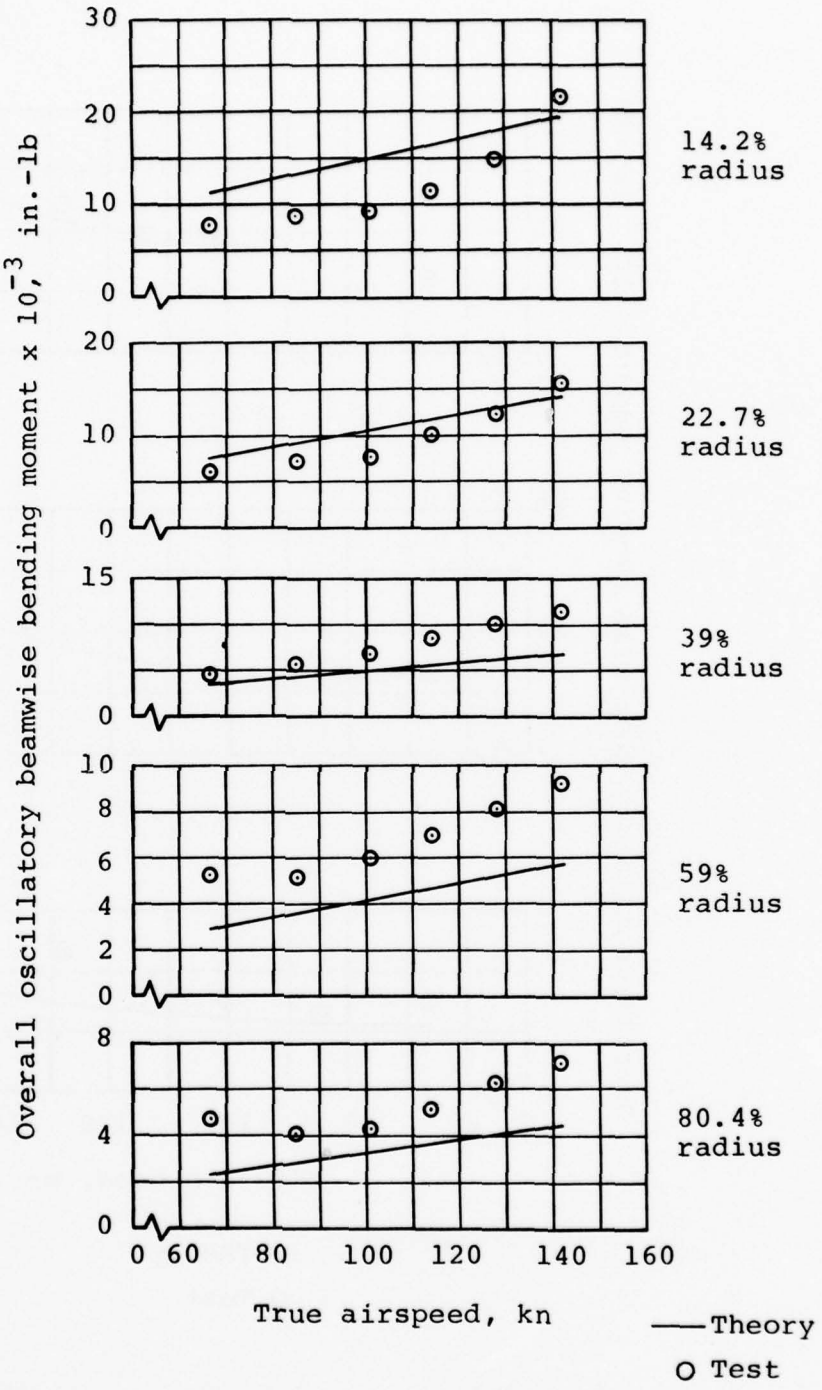


Figure 41. Comparison of measured and computed oscillatory beamwise bending moments versus airspeed (flight 35A, clean-wing configuration, 8320-lb gross weight, aft cg).

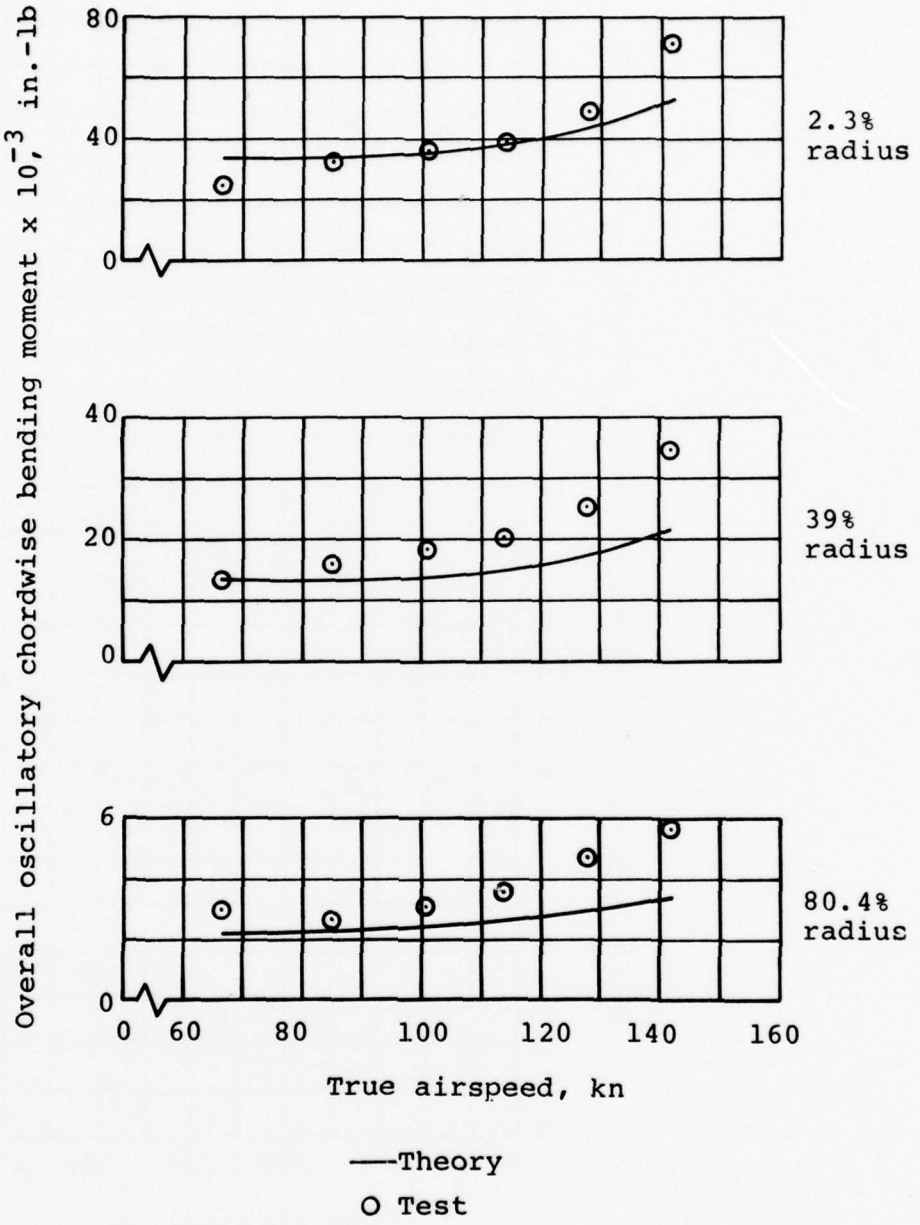
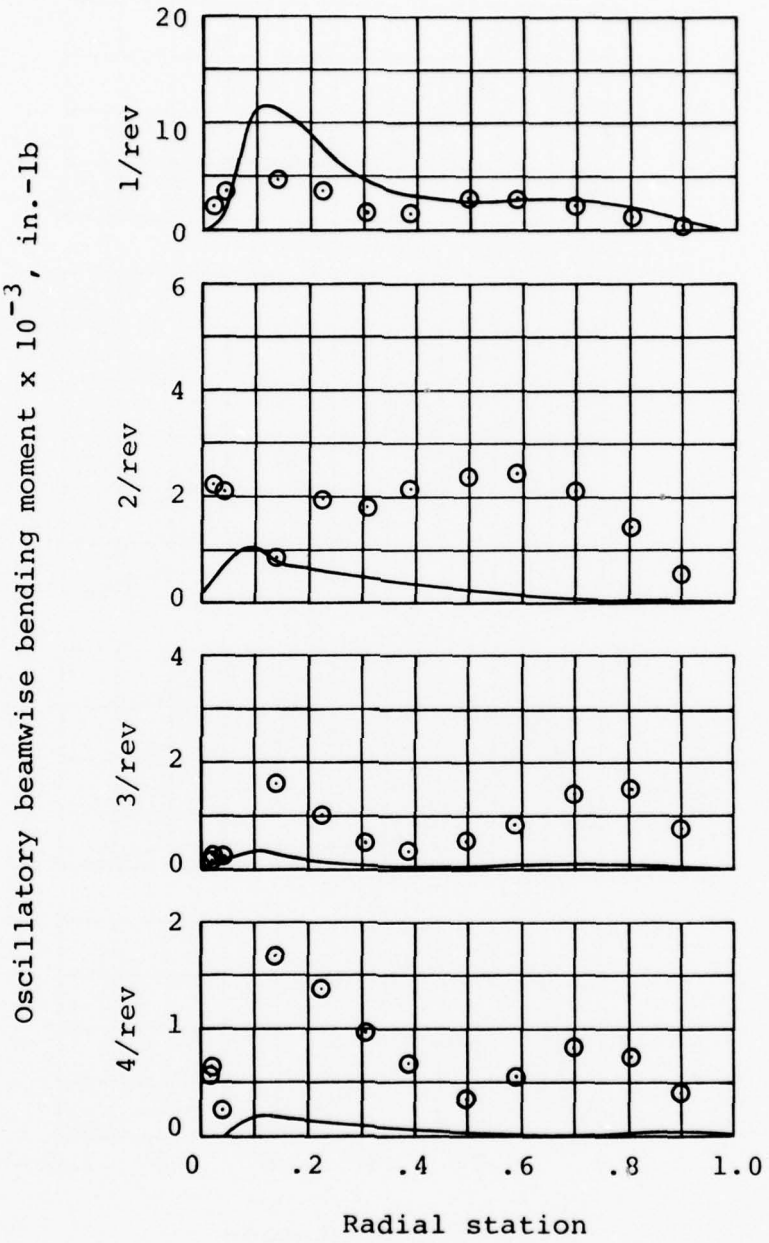


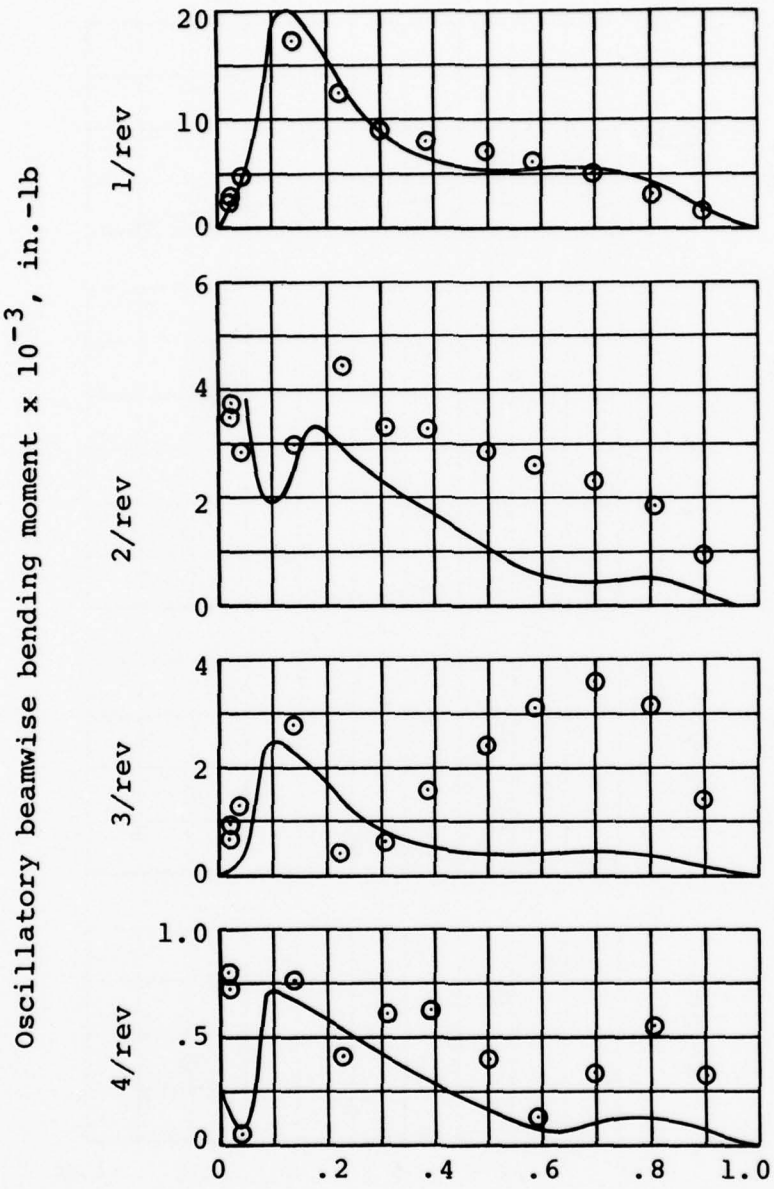
Figure 42. Comparison of measured and computed oscillatory chordwise bending moments versus airspeed (flight 35A, clean wing configuration, 8320-lb gross weight, aft cg).



(a) .5 V_H

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Figure 43. Spanwise oscillatory beam bending moment harmonics at .5V_H and V_H (clean wing configuration, 8320-lb gross weight, aft cg).



(b) V_H

Figure 43. (Concluded)

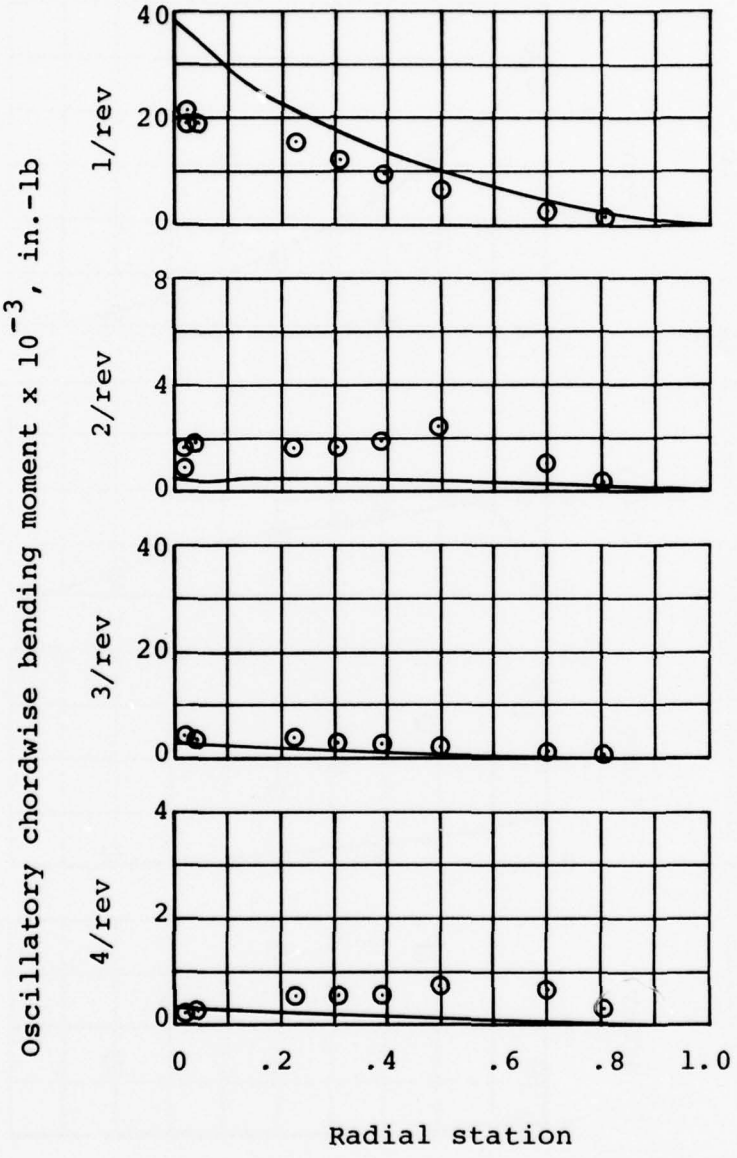
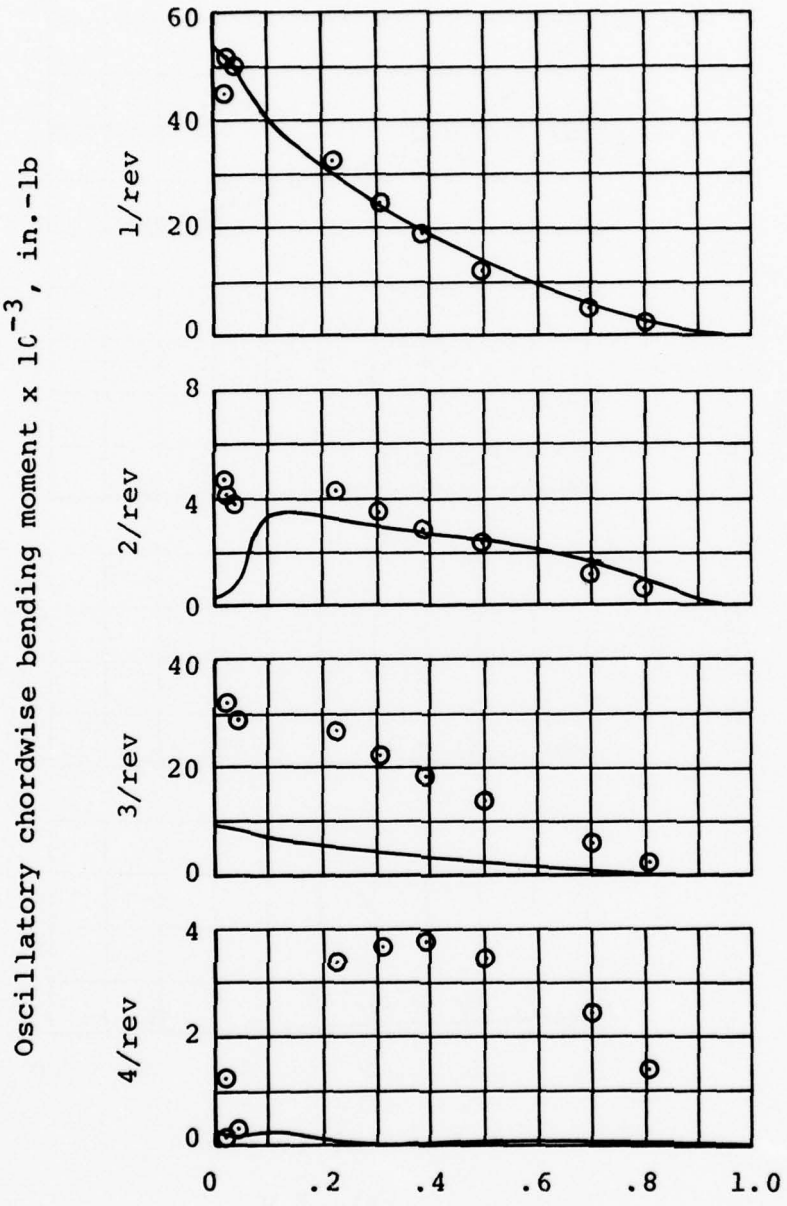


Figure 44. Spanwise oscillatory chord bending moment harmonics at .5V_H and V_H (clean wing configuration, 8320-lb gross weight, aft cg).



(b) V_H

Figure 44. (Concluded)

5.2.2.2.2 Maneuvers

C81 was used to simulate three eight-second maneuvers (refer to Table 15): (1) 1.8g symmetric pullup, (2) 2.2g level left turn, and (3) 2.0g level right turn. The simulation was accomplished by the input of stick rates with corresponding timeframes (refer to Appendix C) in an effort to reproduce the body reference angular velocities and the cg vertical acceleration. Secondary monitoring variables in the simulation were the ship attitudes and control positions.

Measured and computed time history comparisons for the three maneuvers are included in Appendix C. In addition to the time history comparisons, the rotor bending moments were harmonically analyzed at three time points for each maneuver. The time points correspond to one main rotor revolution at the following conditions: (1) minimum oscillatory vertical g-level, (2) maximum oscillatory vertical g-level, and (3) maximum mean vertical g-level. The times at which these conditions occur for each maneuver are listed in Table 15 and are shown on each time history plot.

TABLE 15. HARMONIC ANALYSIS MANEUVER TIME POINTS

	Time Point		
	t_1 (sec)	t_2 (sec)	t_3 (sec)
Maneuver	Min. Osc. Vert g-level	Max. Osc. Vert g-level	Max. Mean Vert g-level
Sym. Pullup	7.45	4.45	2.6
Left Turn	0.0	6.8	5.2
Right Turn	0.0	2.2	4.1(test)/ 3.9(C81)

Generally, the computed flight performance parameters agree very well with the measured data for all three maneuvers. Time history comparisons of the symmetric pullup rotor bending moments are shown in Figure 45. These comparisons are representative of the overall trends for all three maneuvers. That is, the trends of the computed beamwise bending moments for all three maneuvers agree very well with the measured data; however, the magnitudes are generally underpredicted. And, the trends of the computed and measured chordwise bending moment time histories range anywhere from good to poor with overall magnitudes underpredicted. The differences in the comparisons, as in the level flight comparisons, are primarily due to the higher harmonic loading that is especially prevalent over the outboard portion of the rotor. This is shown not only in the character of the time history

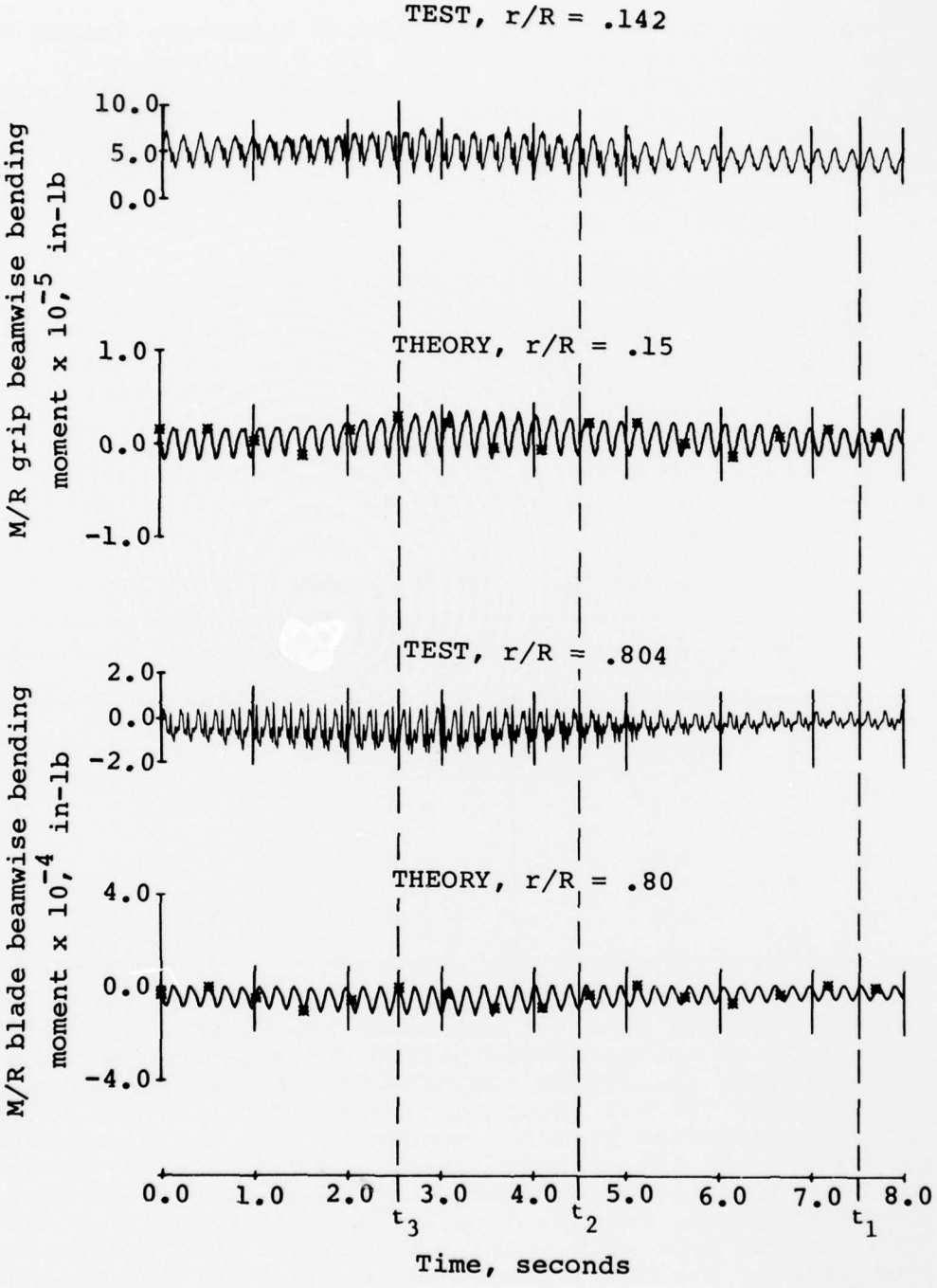


Figure 45. Comparisons of measured and computed time histories of a 1.8g symmetric pullup (flight 32, counter 562).

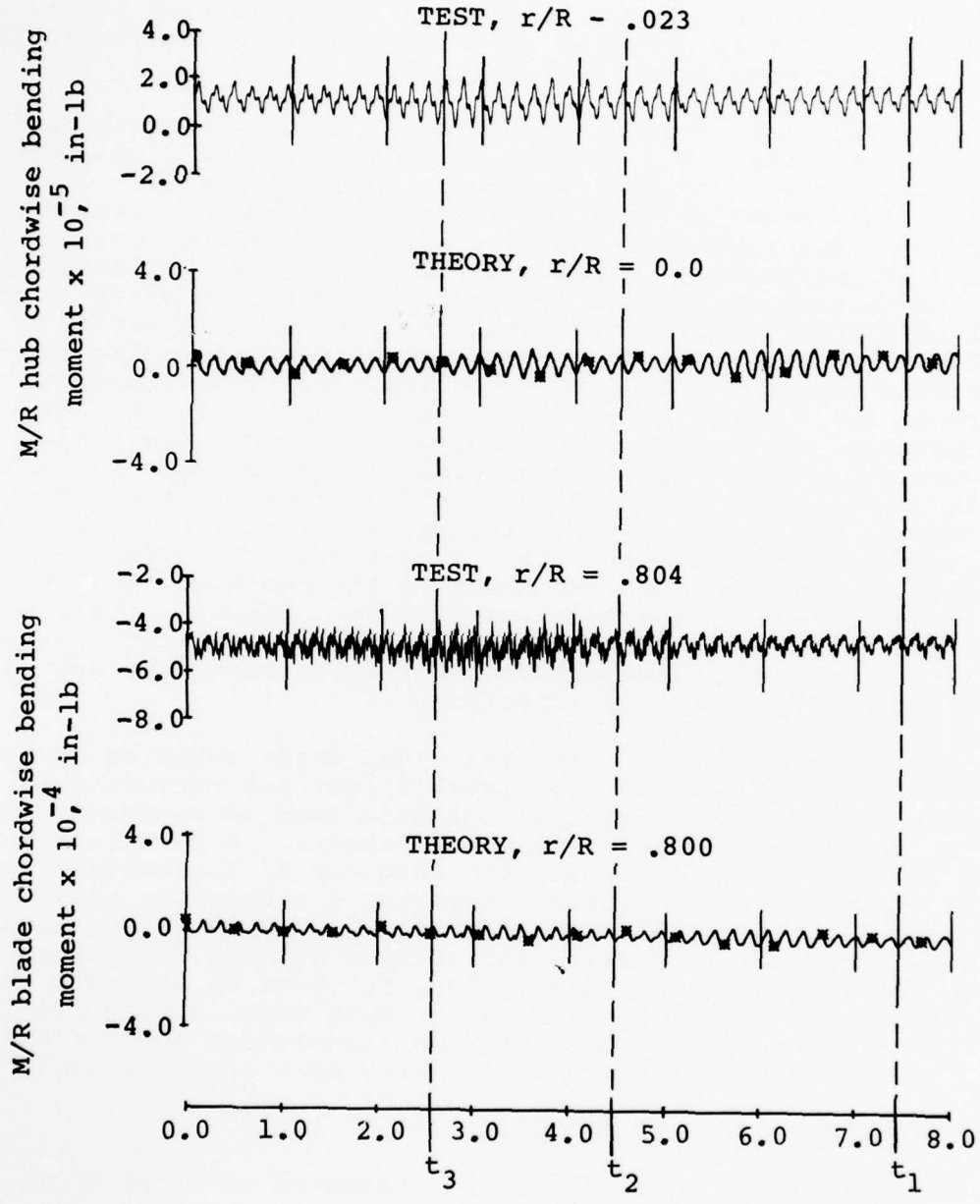


Figure 45. (Concluded)

traces but also in the harmonic content of the bending moments at the three time points, Figure 46. The higher harmonic loading in both the beamwise and chordwise directions increases with spanwise distance from the center of rotation. In addition, the higher harmonic content is usually larger at time points t_2 (maximum oscillatory g-level) and t_3 (maximum mean g-level) than at t_1 (minimum oscillatory g-level).

The level left turn simulation produced unusual chordwise bending moment results. The chordwise loads decreased significantly as the maximum mean g-level was approached, Figure 47. The cause of this peculiar computed response was investigated and found to be the result of the unsteady aerodynamics routine, UNSAN. An instability in the numerical analysis that computes pitch and plunge rates, and accelerations caused a shift in the modal phasing. The net effect was the virtual elimination of the 1/rev inplane response. The maneuver computed using an alternate unsteady aerodynamics routine, BUNS (discussed in Reference 11) did not have this instability, Figure 48. Correspondingly, much better agreement with the measured loads was attained even though past studies have shown that the BUNS routine is inferior to UNSAN in reproducing oscillatory airfoil test data. The improved time history agreement results from the improved prediction of 1/rev, Figure 48. The UNSAN-related instability was also found to occur in the computed data of the symmetric pullup and level right turn. However, the phase shift did not produce directly opposite modal phasing. Therefore, the reported analytical data for these maneuvers did not appear to be significantly affected.

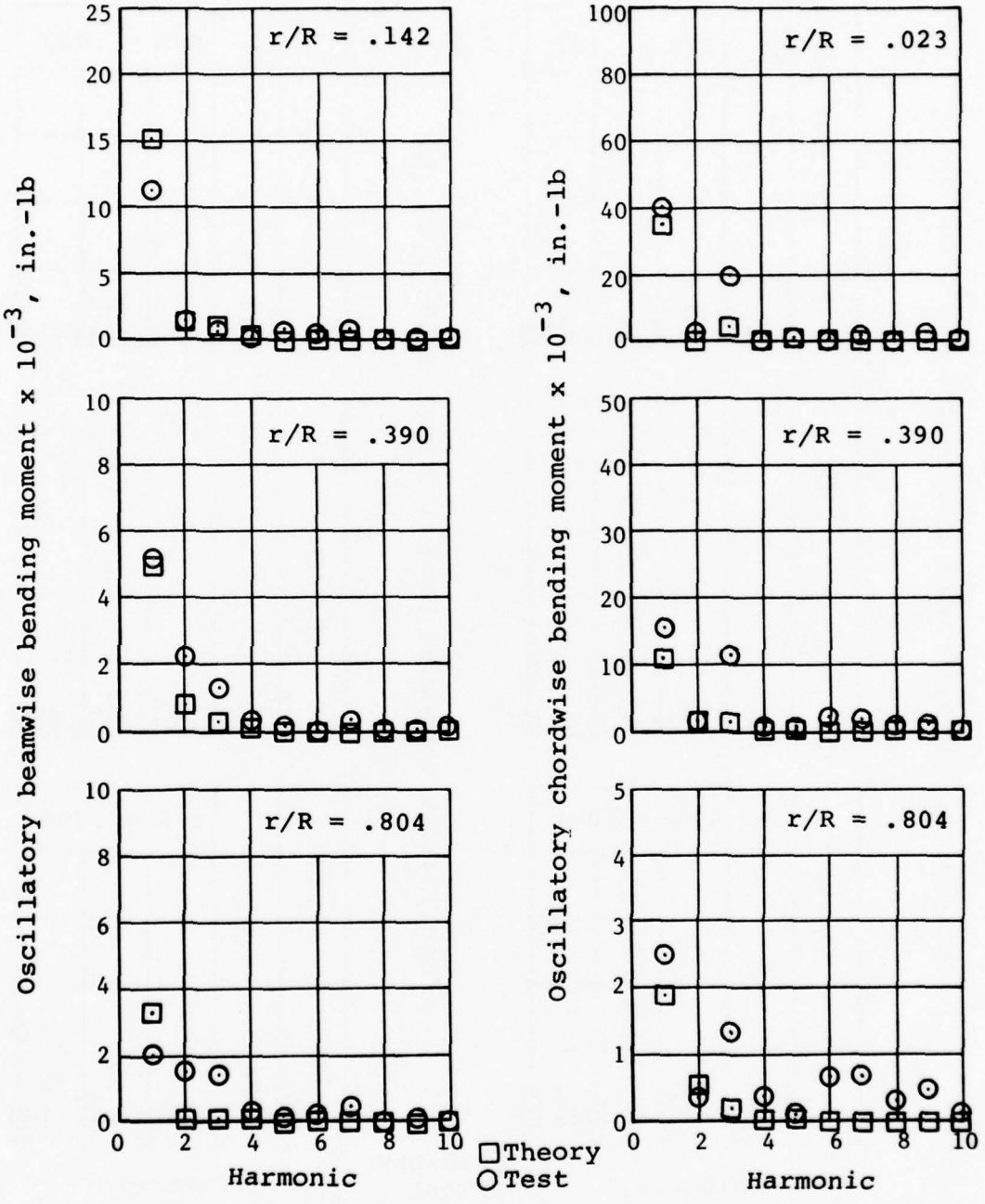
The overall agreement of performance and loads computed by the C81 with the measured data for level flight and maneuvers is reasonably good. These simulations were hard to compare with some of the more easily handled test results. A detailed study would be required to determine the adequacy of the analysis and of the inputs to the analysis. However, a tremendous effort, much beyond the scope of these comparisons, would be required to fully simulate, correlate, and analyze all the data taken during these flight conditions. And, in order to evaluate these comparisons or future comparisons to these data, a more precise definition is needed of what comprises simulation and correlation, and to what degree of success they were accomplished.

5.3 Nap-of-the-Earth OPERATIONS

Test results of the NOE flights are presented in three sections:

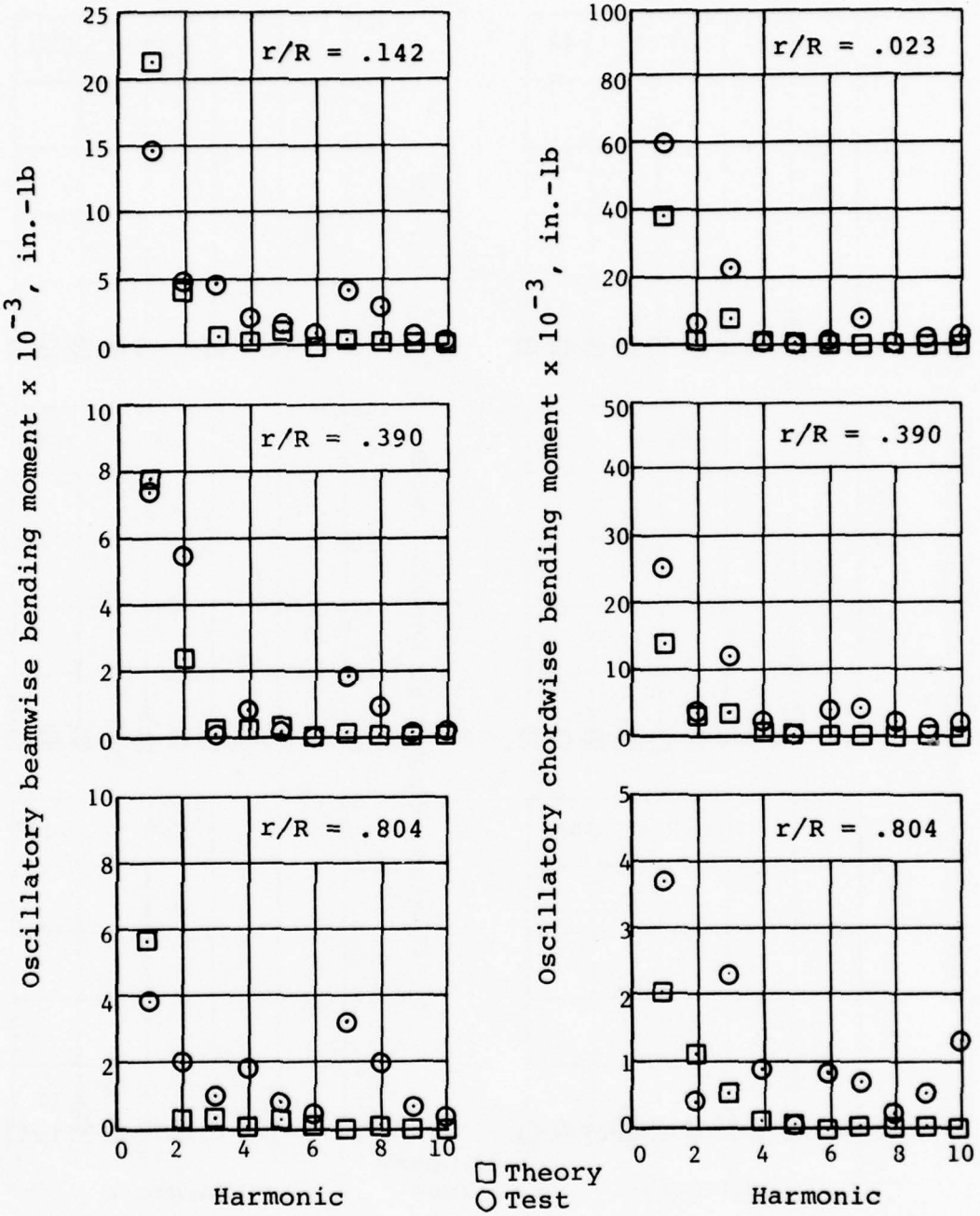
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[11]Davis, op.cit.



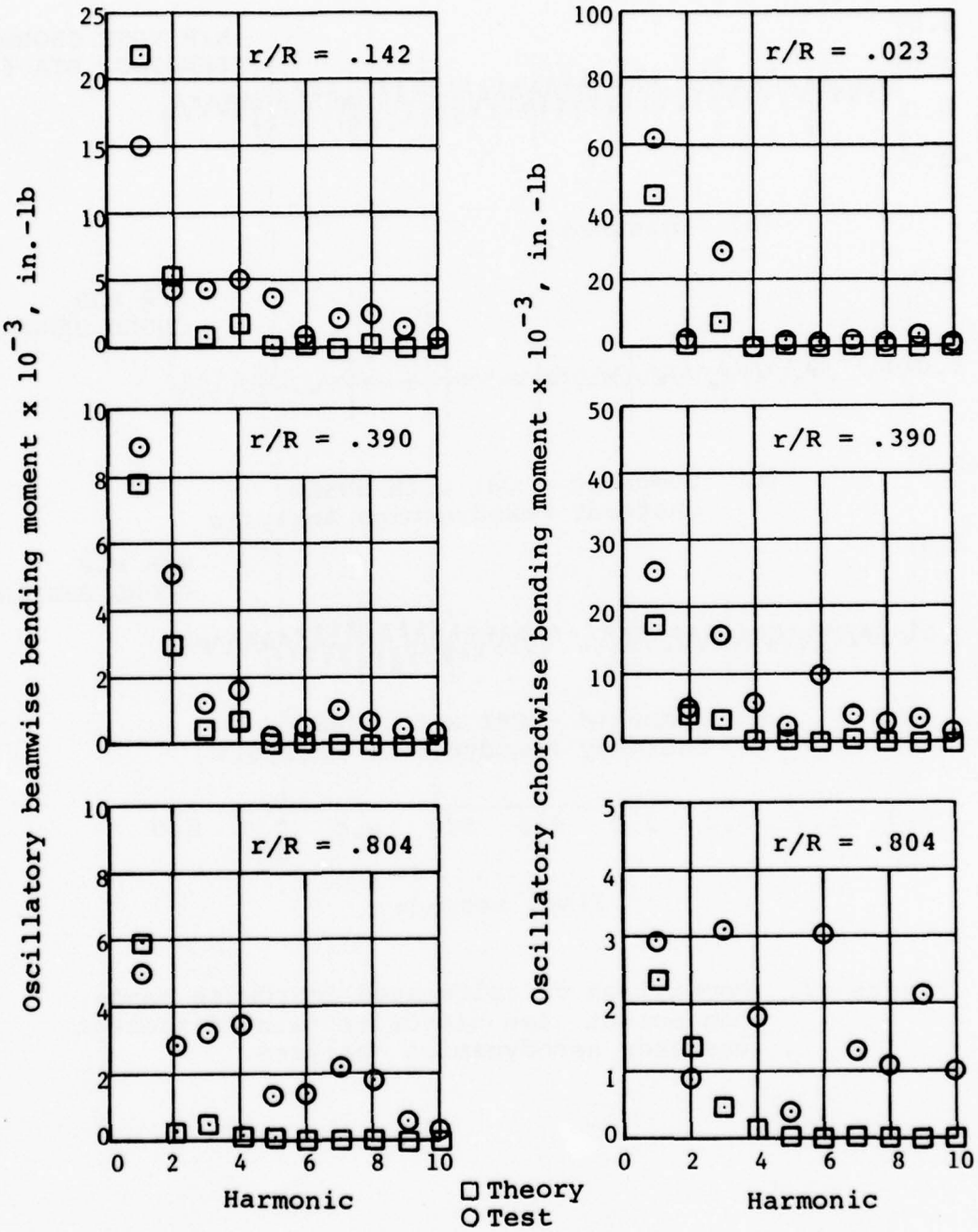
(a) Minimum oscillatory g-level time point, t_1 (7.45 sec)

Figure 46. Comparison of measured and computed rotor bending moment harmonic components at various blade radial stations during a symmetric pullup.



(b) Maximum oscillatory g-level time point, t_2 (4.45 sec)

Figure 46. (Continued)



(c) Maximum mean g-level time point, t_3 (2.6 sec)

Figure 46. (Concluded)

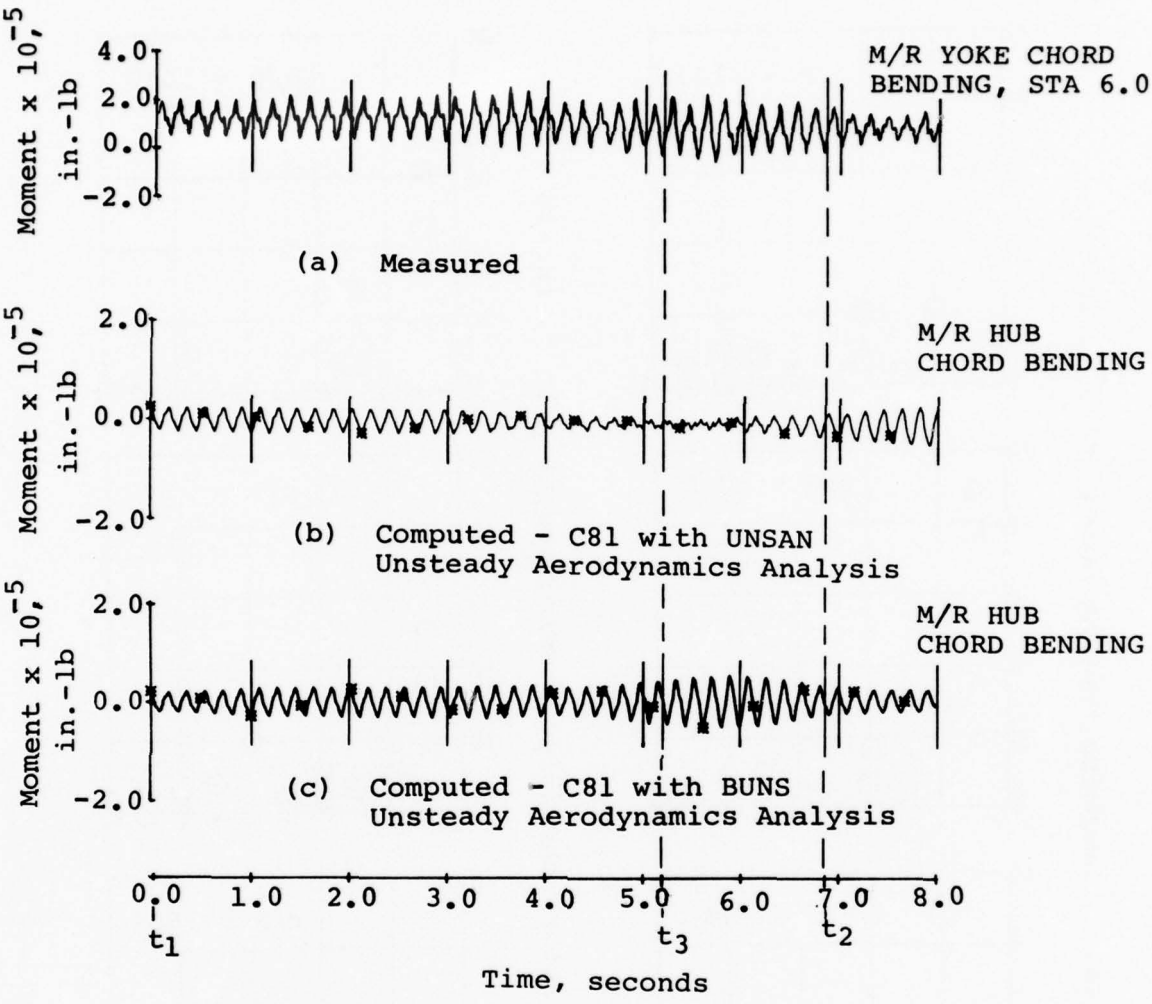


Figure 47. Comparison of calculated chordwise bending moment time histories using different unsteady aerodynamics analyses.

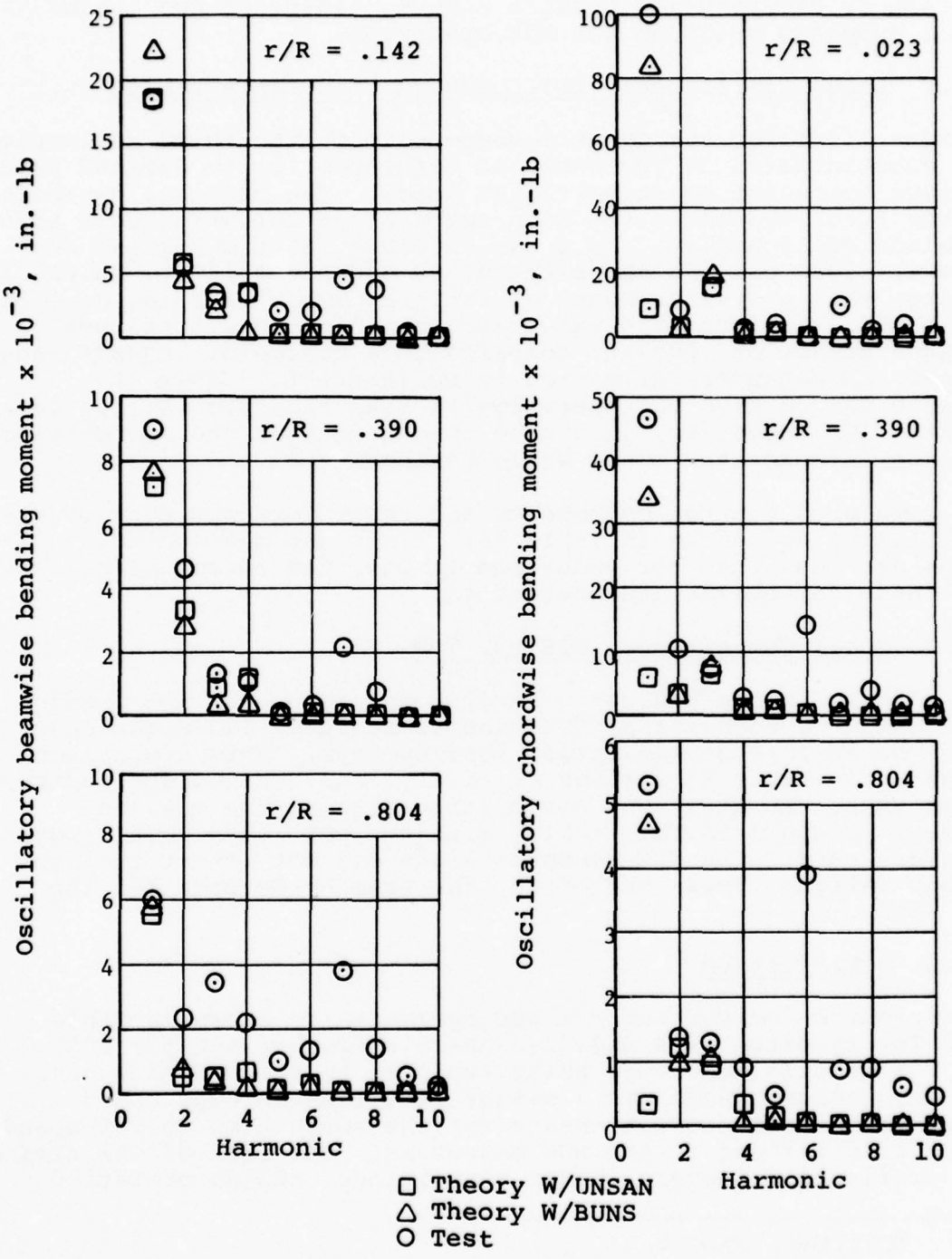


Figure 48. Rotor bending moment harmonic components at various blade radial stations for a left turn, time point t_3.

a comparison of component endurance limits to NOE loads, a comparison of existing TOW missile maneuver loads to NOE loads, and a proposed spectrum for NOE operation.

5.3.1 Loads Comparison: NOE Loads vs. Endurance Limits

Fatigue lives for the dynamic components of the AH-1G helicopter are substantiated on the basis of endurance limits derived from fatigue tests and measured flight loads. The critical parameter in the rotor system is the main rotor blade retention bolt hole at blade station 41.0. As shown in Table 16, the highest NOE stress, ±1086 psi, is above the blade endurance limit, which indicates that a finite amount of fatigue damage is being done on the blade. Fatigue life calculations indicated a total NOE fatigue damage of .000218, compared to a damage of .000876 shown in the IGE maneuvers presented in Reference 6. Since the fatigue damage from NOE operation is less than the fatigue damage for the IGE maneuvers, it can be concluded that the recommended fatigue life for the blade would be unchanged.

The remaining control components and their corresponding endurance limits are shown in Table 16. Since the maximum NOE loads are less than the endurance limits, the recommended lives for these components are unaffected.

5.3.2 Loads Comparison: NOE vs. TOW

In addition to the endurance limit comparison, the NOE loads were compared to existing TOW missile maneuver loads obtained from the AH-1F/S qualification load surveys. This comparison is shown in Table 17 for the critical blade station and control components. An excellent correlation between the two load surveys is shown in this table, with the NOE loads being lower in every case. The TOW maneuver loads did not affect the published fatigue lives; therefore, the same holds true for the NOE loads.

5.3.3 NOE Spectrum

The spectrum derived for the NOE operation is shown in Table 18. The spectrum is a modified AH-1S spectrum with the IGE and TOW missile maneuvers being replaced by the NOE maneuvers. The only other change was a slight reduction in high speed level flight time to compensate for the added time in low speed level flight found in the NOE maneuvers. The rest of the firing and nonfiring maneuvers, power transitions, and autorotation

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[6]Collins, op.cit.

TABLE 16. COMPARISON OF "NOE" LOADS TO EXISTING DYNAMIC COMPONENT ENDURANCE LIMITS

Component Nomenclature	Maximum "NOE" Osc. Load	Component Endurance Limit
M/R Blade Bolt Hole (Sta. 41)	±1086 psi	± 962 psi
M/R Pitch Link	± 935 lbs	±2015 lbs
M/R Scissors Assembly	± 935 lbs	±2015 lbs
M/R Pitch Horn	± 935 lbs	±1576 lbs
Swashplate Drive Link	± 935 lbs	±1338 lbs
Swashplate Outer Ring	± 935 lbs	±1936 lbs
M/R Boost Cylinder (F/A)	±1054 lbs	±1269 lbs
Swashplate Inner Ring	±1054 lbs	±1435 lbs
Rod End Bearing	±1054 lbs	±1674 lbs
M/R Boost Cylinder (Coll)	± 563 lbs	±1269 lbs
Collective Sleeve	± 563 lbs	±1914 lbs
Collective Hub	± 563 lbs	±1914 lbs
Collective Lever	± 563 lbs	±2436 lbs

maneuvers remain unchanged from the AH-1S spectrum, which in turn is derived from the basic AH-1G spectrum.

The purpose of the NOE data review was to determine if the published recommended fatigue lives were reduced by NOE operation. All of the measured dynamic parameters were reviewed and, as shown in the text and tables, the NOE loads compared favorably with existing TOW and IGE maneuver loads. As a result, it can be concluded that the NOE operation as outlined in this program does not reduce the published retirement lives on the dynamic components of the AH-1G helicopter. Additional data for the NOE flights are presented in "Fatigue Evaluation on the AH-1G for NOE Operational Loads," Reference 14.

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[14]Cassady, B., "Fatigue Evaluation on the AH-1G 'NOE' Operational Loads," Bell Helicopter Textron Report 209-099-798, Fort Worth, Texas, 22 January 1976.

TABLE 17. COMPARISON OF "NOE" LOADS TO EXISTING AH-1S TOW MISSILE MANEUVER LOADS

Component Nomenclature	Maximum "NOE" Oscillatory Load and Associated Maneuver	Maximum AH-1S Tow Maneuver Load and Associated Maneuver
M/R Blade Bolt Hole	+1086 PSI - Decel 50 kn to OGE	+1276 PSI - Rapid decel to hover OGE
M/R Pitch Link	+935 lb - Level att decel - OGE	+1363 lb - Abrupt descent OGE - IGE
M/R Boost Tube (F/A)	+1054 lb - Level att decel - OGE	+1141 lb - Rvsl 50 kn Lt - 50 kn Rt
M/R Boost Tube (Coll)	+563 lb - Dir rvsl & accel Rt	+777 lb - Rvsl 50 kn Lt - 50 kn Rt

deceleration - decel
attitude - att
direction - dir
acceleration - accel
right - Rt
left - Lt
reversal - rvsl

TABLE 18. NOE SPECTRUM

CONDITION	% TIME	RPM
GROUND CONDITIONS		
Normal Start	.5000	319
Shutdown with Collective	.5000	319
IGE AND TOW MANEUVERS		
OGE Hover		
50 ft	.7000	324
100 ft	1.0000	324
Pop-Up		
IGE to OGE	.5000	324
NOE to OGE	.5000	324
Forward Flight		
at 10 KIAS	1.0000	324
at 20 KIAS	1.0000	324
at 30 KIAS	1.0000	324
at 40 KIAS	1.0000	324
at 50 KIAS	1.0000	324
Descent from OGE to IGE	.5000	324
90° Turn and Accel.		
Rt.	.2500	324
Lt.	.2500	324
Decel 50 kn to OGE	.5000	324
Level Att Decel - OGE	.5000	324
360° Turn		
Recorded @ 210°	.2500	324
Recorded @ 240°	.2500	324
Recorded @ 270°	.2500	324
Recorded @ 300°	.2500	324
Recorded @ 330°	.2500	324
Recorded @ 0°	.2500	324
Recorded @ 30°	.2500	324

TABLE 18. (CONTINUED)

CONDITION	% TIME	RPM
Recorded @ 60°	.2500	324
Recorded @ 90°	.2500	324
Recorded @ 120°	.2500	324
Recorded @ 150°	.2500	324
Recorded @ 180°	.2500	324
Sideward Flight		
To the Right	.2500	324
To the Left	.2500	324
Direction Reversal & Accel		
To the Right	.2300	324
To the Left	.2300	324
FORWARD LEVEL FLIGHT		
Airspeed		
0.50 V_H	.5000	314
	4.5000	324
0.60 V_H	.2000	314
	1.8000	324
0.70 V_H	.3000	314
	2.7000	324
0.80 V_H	1.5000	314
	13.5000	324
0.90 V_H	2.3000	314
	20.7000	324
V_H	1.0000	314
	9.0000	324
NONFIRING MANEUVERS		
Full Power Climb		
To 70 Knots	4.0000	319
To 120 Knots	1.0000	319
Maximum Rate Accel		
Climb to .9 V_H	2.8000	319

TABLE 18. (CONTINUED)

CONDITION	% TIME	RPM
Normal Turns		
To the Right		
0.5 V_H	1.0000	319
0.7 V_H	1.0000	319
0.9 V_H	2.0000	319
To the Left		
0.5 V_H	1.0000	319
0.7 V_H	1.0000	319
0.9 V_H	2.0000	319
.9 V_H Contr. Corr		
Longitudinal	0.0500	319
Lateral	0.0500	319
Rudder	0.0500	319
Sideslip		
To the Left	0.2500	319
To the Right	0.2500	319
Part Power Descent	2.5500	319
GUNNERY MANEUVERS		
Firing in a Hover	0.0750	319
Strafing in Accel. from a Hover	0.0500	319
Gunnery Runs		
Pt. Target Dives		
To 0.6 V_L	0.0560	319
To 0.8 V_L	0.1680	319
To 0.9 V_L	0.2800	319
To V_L	0.0560	319

TABLE 18. (CONTINUED)

CONDITION	% TIME	RPM
Spray Fire Dives		
0.6 V_L	0.0240	319
0.8 V_L	0.0600	319
0.9 V_L	0.1200	319
To V_L	0.0240	319
Gunnery Run P/U		
To the Right		
0.6 V_L	0.0200	319
0.8 V_L	0.0600	319
0.9 V_L	0.1000	319
V_L	0.0200	319
To the Left		
0.6 V_L	0.0200	319
0.8 V_L	0.0600	319
0.9 V_L	0.1000	319
V_L	0.0200	319
Symmetrical		
0.6 V_L	0.0200	319
0.8 V_L	0.0600	319
0.9 V_L	0.0100	319
V_L	0.0020	319
Gunnery Turns		
To the Right		
0.5 V_H	0.3750	319
0.7 V_H	0.3750	319
0.9 V_H	0.7500	319
To the Left		
0.5 V_H	0.3750	319
0.7 V_H	0.3750	319
0.9 V_H	0.7500	319

TABLE 18. (CONCLUDED)

CONDITION	% TIME	RPM
S-Turns		
At 0.8 V_H	0.2000	319
At V_H	0.0750	319
POWER TRANSITIONS		
Power to Auto		
0.5 V_H	0.0500	319
0.7 V_H	0.1250	319
0.9 V_H	0.1750	319
Auto to Power		
In Ground-Effect	0.1500	319
0.4 V_H	0.1000	319
0.6 V_H	0.0750	319
Max Auto A/S	0.0250	319
AUTOROTATION		
Stabilized Flight		
0.4 V_H	0.1870	319
0.6 V_H	1.3120	319
Max Auto A/S	0.2810	319
Auto Turns		
To the Right		
0.4 V_H	0.0500	319
0.6 V_H	0.4000	319
Max Auto A/S	0.0500	319
To the Left		
0.4 V_H	0.0500	319
0.6 V_H	0.4000	319
Max Auto A/S	0.0500	319
Auto Landing	0.2500	319

5.4 ACOUSTICS TESTS

The acoustics tests were conducted in two phases. The first phase involved only the airborne system and consisted of a range of airspeeds and rates of descent. The smoother air at altitude and the reduction of debris damage to the rotor instrumentation made it possible to acquire high quality data quickly and reliably. Figure 49 shows a sample of the analog data from the five fuselage mounted microphones.

The second phase of the test was performed at low altitudes over the ground-based system in winds of less than ten miles per hour with both the airborne and ground systems operating. Figure 13 in section 2.3.6.7 shows the ground base microphone system. A telemetered level code signal was recorded simultaneously in both systems for time correlation. Partial power descent flights were made over the ground-based microphones. The high-speed flights were accomplished by leveling off at low altitude from a dive. The flyovers were conducted on a southerly heading with the vehicle passing over the center ground-based microphone.

Analyses and data of the acoustics tests are presented in Reference 15. The following sections, 5.4.1 and 5.4.2, discuss a sample of the acoustics data.

5.4.1 High Speed Rotor Noise

Ground-based noise measurements recorded during high-speed flyovers were found to contain a series of large negative and intermittent positive impulsive sound pressure variations, as shown in Figure 50. Blade surface static pressure measurements, Figure 30 in section 5.1.1, show that greatly reduced pressures occur on the advancing blade, whose magnitude and azimuthal extent are strongly affected by increasing forward speed (Mach number). A chordwise distribution of the pressures, Figure 51, indicates the presence of local supersonic flow over the forward area of both upper and lower blade surfaces. The local flow has been accelerated above sonic speeds primarily by the tip speed but also as a result of blade thickness as the air is displaced. The negative sound pressure pulses received by ground microphones result from the mass displacement and suction pressure zones at the blade. This noise component is termed "thickness noise" as it is independent of aerodynamic lift or force fluctuation (previous noise data verify this nondependence). The rapid pressure recovery terminating the

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[15]Sakowski, P. C., "Noise Measurement Test Results for AH-1G Operational Loads Survey," Bell Helicopter Textron Report 299-099-831, Fort Worth, Texas, 10 February 1976.

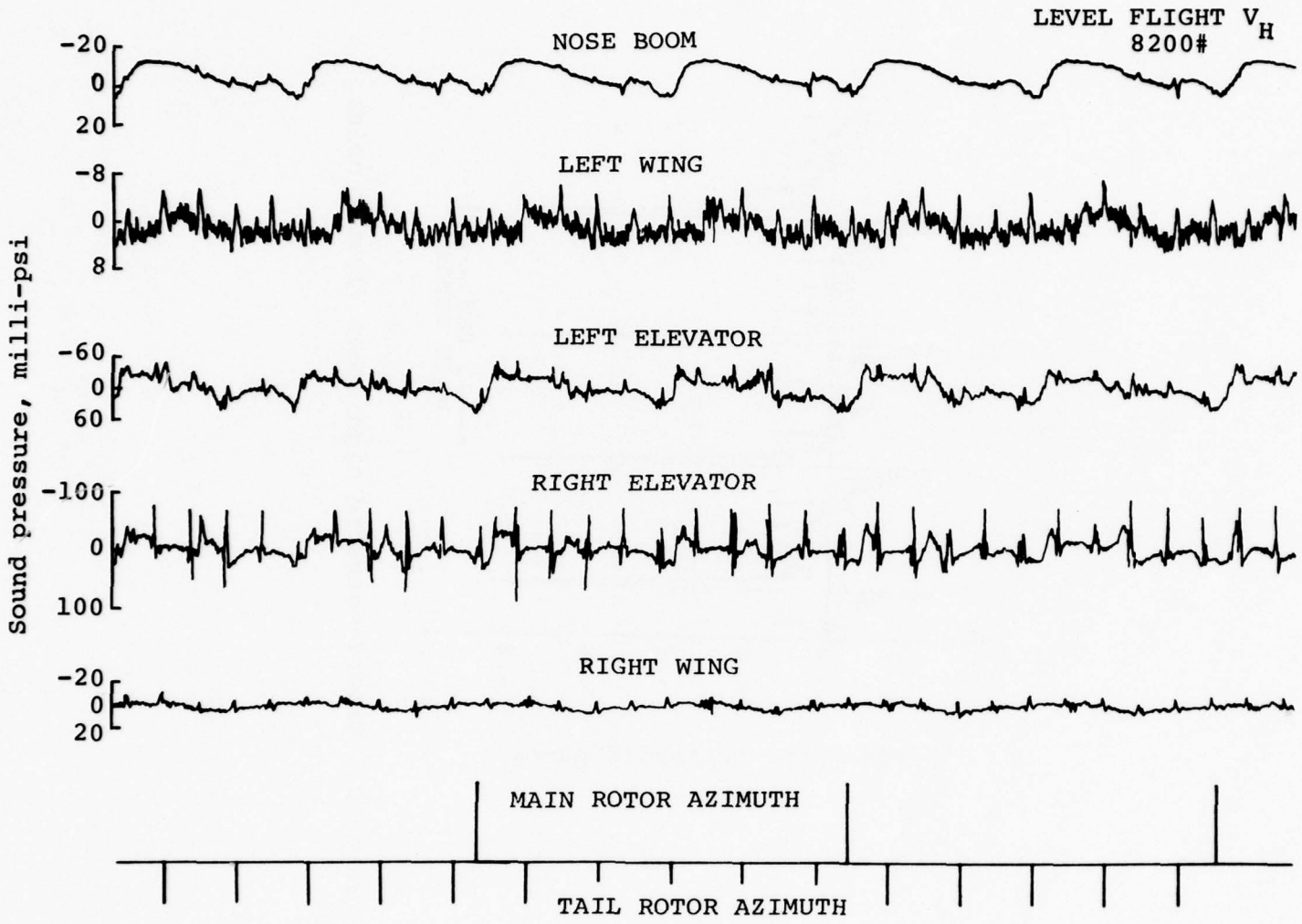


Figure 49. Time histories of fuselage mounted microphone sound pressures.

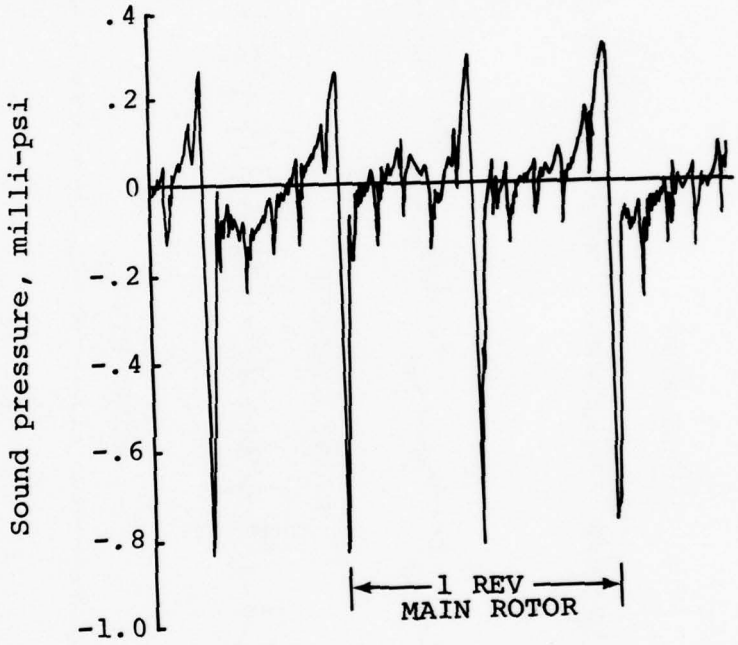


Figure 50. Ground-measured high-speed flyover noise.

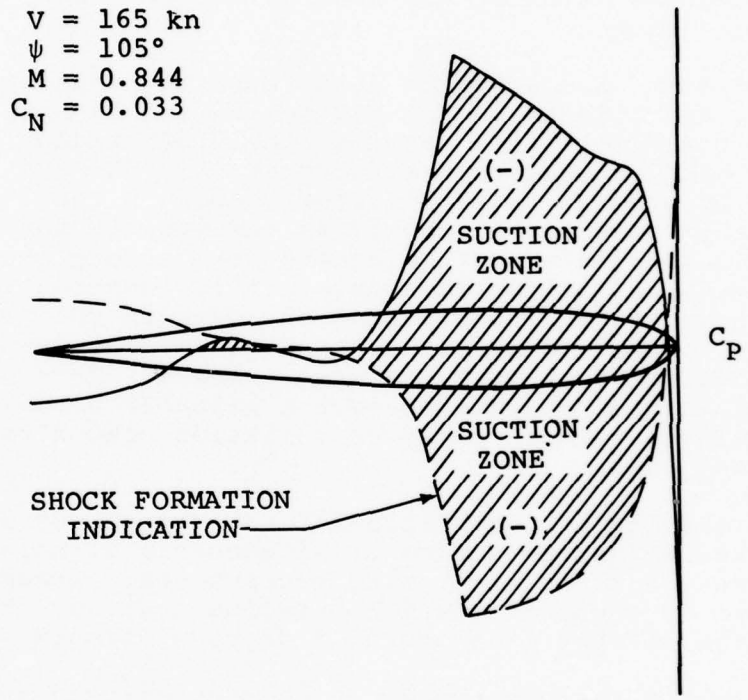


Figure 51. Airfoil static pressure distribution in high-speed flight.

suction area of Figure 51 also indicates shock formation. It is hypothesized that unsteady shock wave propagation gives rise to the intermittent positive pulses found in the acoustic signature.

5.4.2 Blade/Wake Interaction Noise

Rotor noise caused by wake interaction, referred to as blade slap, has been traced to two near-parallel intersections of 1½-revolution-old tip vortices with the blades. The critical intersection occurs on the advancing side at 55 degrees as depicted in Figure 52. A retreating blade intersection near 280 degrees azimuth also occurs, but this only happens at high descent rates.

Aerodynamic and acoustic data comparing nonslap and slap conditions are illustrated in Figures 53 and 54, respectively. The static pressure data taken at the 0.955 radius station indicate wake interference effects at 55-, 70- and 280-degree azimuth locations. A significant change in the 55-degree disturbance is noted in Figure 54 as the vehicle descends into its wake. This intersection generates a strong acoustic impulse, while other interactions have little contribution. Pressure measurements at inboard stations confirm the near-parallel blade-vortex alignment as the disturbances occur nearly simultaneously and rapidly traverse inboard. This alignment produces large induced velocities over a sizeable blade area, causing a near-instantaneous pressure pulsation concentrated at the leading edge.

The location of the critical intersection was also confirmed by triangulating the source using acoustic signals timed from the noseboom and right wing microphones. Assuming the interaction to occur at the 0.955-radius station, the slap event is located between 53.5 and 55.5 degrees azimuth.

The vortex disturbance at 70 degrees azimuth shows stronger pressure variations in level flight than in descent, implying that the vortex may pass above the blade. Its pressure change in level flight is comparable to the 55-degree disturbance in descent. However, the acoustic waveform shows little evidence of a strong interaction. This is partially explained by the relatively high skew angle (45 degrees) between the vortex element and the blade, and by its passage above the blade, producing lower relative velocities.

The retreating blade also encounters a vortex near 280 degrees azimuth that produces a large pressure change. Microphone data at the left elevator position show no significant acoustic effects, possibly because of the reduced blade velocity and

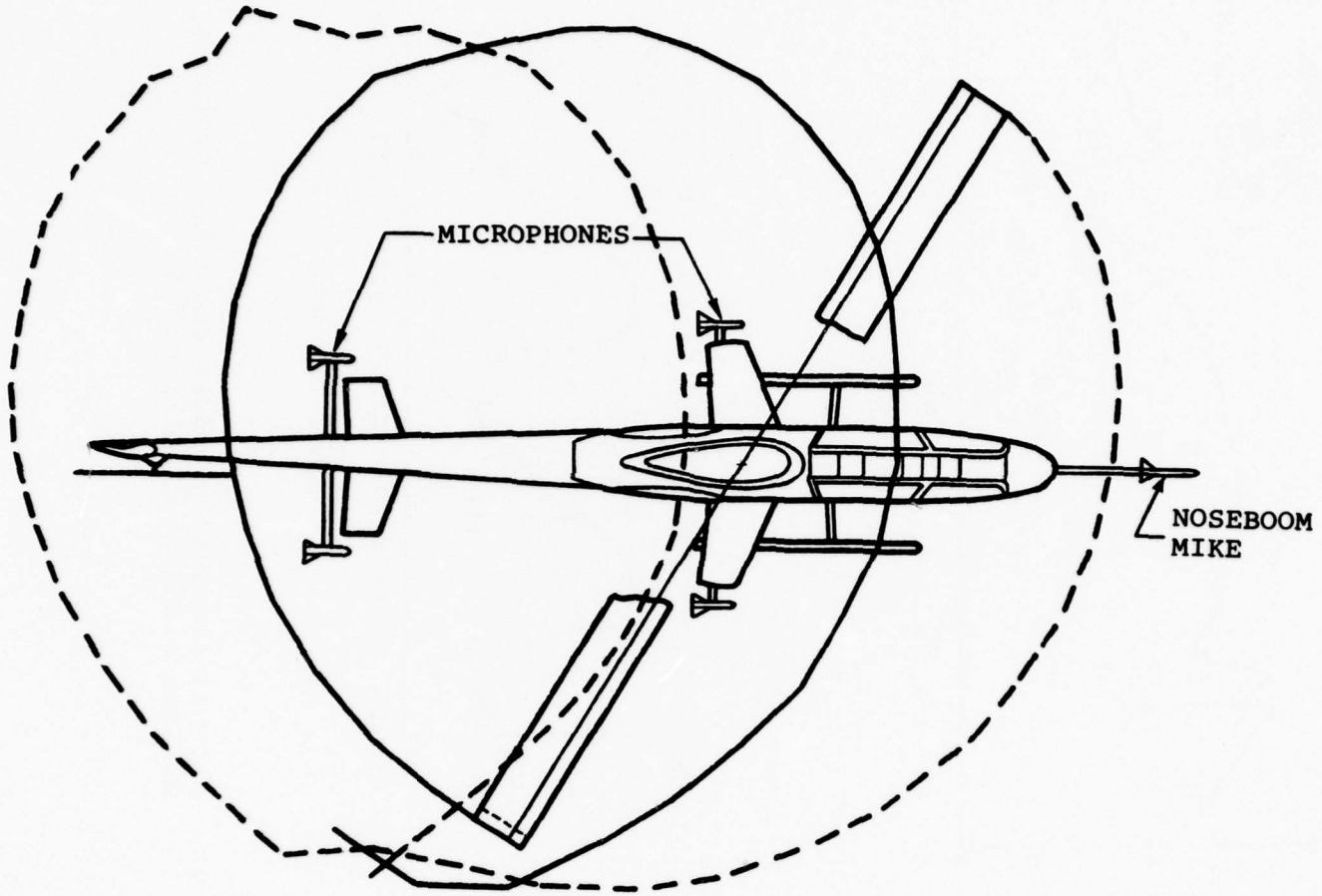


Figure 52. Wake geometry at 65 knots.

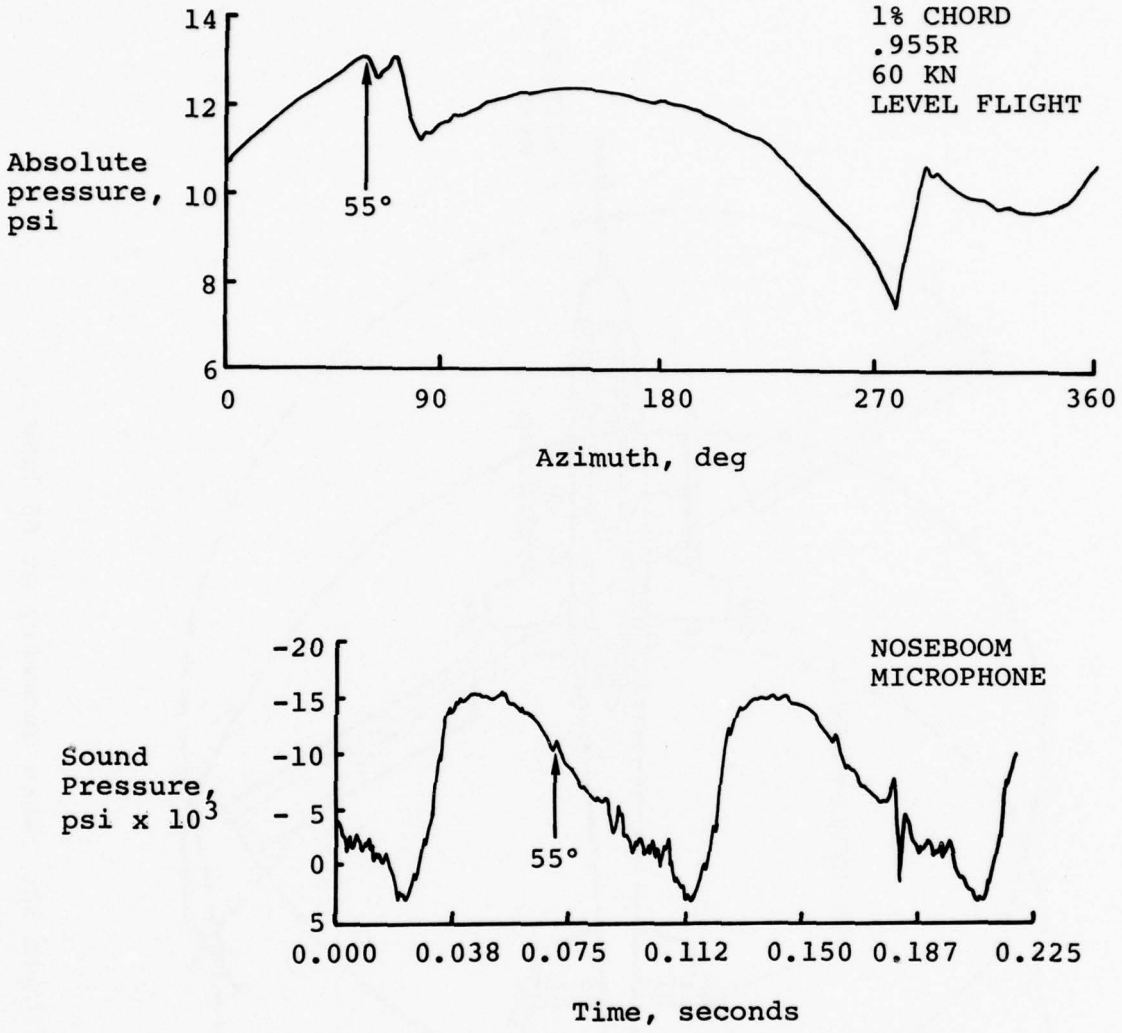


Figure 53. Airfoil absolute pressure and sound pressure, minimum blade/wake interaction.

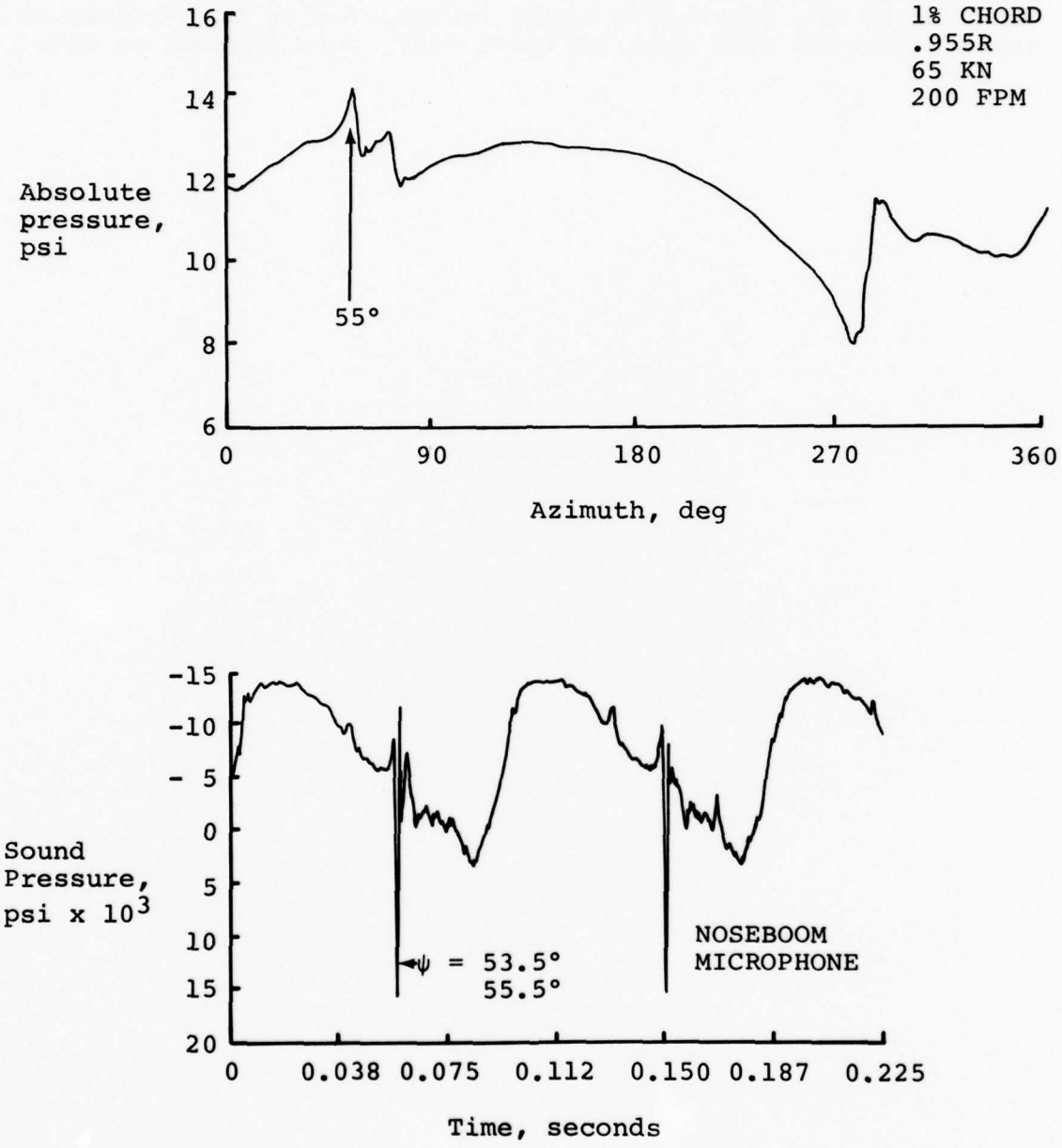


Figure 54. Airfoil absolute pressure and sound pressure, maximum blade/wake interaction.

Mach number. However, previous data from fuselage-mounted microphones indicate that a significant aft-directed noise is produced by the retreating blade interaction at higher descent rates (600-1000 fpm) than analyzed under this program to date.

6. CONCLUSIONS

The primary product of this program is a documented data tape library consisting of analog and digitized magnetic tapes. Data from this tape library can be readily retrieved and displayed in various formats. These formats can be tailored to meet the specific requirements of individual users of the data. The digital tapes have standard labels and are compatible with the current model IBM 370 computers. The data tapes are accessible to government and industry from the Eustis Directorate, U.S. Army Air Mobility Research and Development Laboratory.

The data library contains rotor chord and span absolute pressure distributions as functions of azimuth, radial-flow magnitude and direction, stagnation point location, blade loads, blade vibrations, and control system and fuselage responses for a large range of flight conditions. These data permit the verification of current rotor design analyses and provide the physical insight into rotor behavior to guide the development of planned mathematical models.

6.1 ADVANCES IN TEST INSTRUMENTATION

The following advances were made in test instrumentation:

- A means of measuring in detail a rotorcraft's aerodynamic and dynamic environment was developed.
- Numerous signals from rotating transducers were simultaneously conditioned, multiplexed and reliably passed through a space-limited slipring to an onboard recorder.
- Attendant responses in fuselage, vehicle performance and noise were simultaneously recorded.
- The hardware and instrumentation design permitted the relocation or concentration of the rotating transducer to selected areas of the blade for future investigations.
- The development and successful flight testing of this system have proven the design and demonstrated its reliability.

6.2 PRINCIPAL FINDINGS

The principal findings of the analyses done in the specific areas of flight simulation, nap-of-the-earth testing, ground vibration testing and acoustics testing are summarized below.

6.2.1 Flight Test Comparison with Theory

6.2.1.1 Flight Simulation - Level Flight

- Measured and computed performance parameters, including control positions, helicopter attitudes, power and main rotor flapping, agree very well.

- Oscillatory blade beam bending moments for the inboard portion of the blade are generally overpredicted at low speeds and underpredicted at high speeds.

- Outboard beam bending moments agree very well at low speeds, but are underpredicted with increasing speeds.

6.2.1.2 Flight Simulation - Maneuvers

- Computed flight performance parameters generally agree very well with measured data for all three maneuvers.

- Trends of computed beam bending moments agree very well with measured data; however, the magnitudes are underpredicted.

- Measured trends and computed time histories of chord bending moments range from good to poor with overall magnitudes being underpredicted.

6.2.2 Nap-of-the-Earth (NOE)

- NOE loads compare favorably with existing TOW maneuver loads and IGE maneuver loads.

- NOE maneuvers flown in this test do not reduce the published retirement lives on dynamic components of the AH-1G helicopter.

6.2.3 Ground Vibration - Testing

- The NASTRAN and shake-test response characteristics agree well in overall amplitudes, forced response mode shapes, peak responses, and acceleration mobility trends (curve shapes).

- Agreement between NASTRAN and shake-test response characteristics is less favorable for excitation at the main rotor hub because of the pylon dynamics differences, the shake test suspension system, and the dummy rotor hub.

- Predicted airframe natural frequencies agree well with measured frequencies through the second vertical and lateral modes.

- Significant differences are shown for the pylon parameters; however, hub response in the two-per-rev frequency range agrees relatively well with test.

- The average measured static control system spring rate agrees within one percent with the current published value.

- Measured control system static spring rates varied by factors of from 1.6 to 1.9 (minimum to maximum) depending on control position and from 1.2 to 2.2 depending on swashplate orientations. Major variations were noted depending on the referenced pitch link. The same general trends were observed for compressive and tensile loading.

- The AH-1G control system dynamic characteristics were found to be independent of control position, static loading, and load phasing. The first control system natural frequency was found to be 32.6 Hz, and a swashplate mode was observed at about 9.5 Hz.

6.2.4 Acoustics Tests

- Airborne and ground acoustical measurements verify the highly directional nature of helicopter rotor noise. Distinctly different waveforms were recorded by each microphone and are functions of airspeed, rate of descent, and proximity.

- Blade pressure data yield reliable information about the origin of high speed blade slap. This phenomenon has been traced to large negative static pressures created on the upper and lower blade surfaces in supersonic flow regimes and to radiated shock waves.

- The probable origin of partial power descent blade slap, caused by wake interaction, was traced to the near-parallel blade vortex alignment at 55° azimuth. This alignment produces large induced velocities over a sizeable blade area, causing a near-instantaneous pressure pulsation concentrated at the leading edge.

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16. Bennett, R. L., "Digital Computer Program DF1758 Fully Coupled Natural Frequencies and Mode Shapes of a Helicopter Rotor Blade," Bell Helicopter Company Report 299-099-724, Fort Worth, Texas, March 1975.

APPENDIX A

TRANSDUCER TEST AND CALIBRATION

Section A.1, TRANSDUCER CALIBRATION, describes the testing and calibration of the transducers by BHT after they were received from the vendors. Sections A.2 through A.5 are essentially copies of the transducers' specifications, test plans and guarantees, which were written by the vendor.

A.1 TRANSDUCER CALIBRATION

A.1.1 Miniature Pressure Transducers and Accelerometers

The miniature pressure transducers and accelerometers that were installed on the main rotor blades were tested and calibrated by the vendor prior to shipment.

Upon receipt at BHT, every transducer was again visually inspected, functionally tested, and calibrated. Calibration data were incorporated into the detail instrumentation set-up sheets, which are contained in Appendix B.

A.1.2 BLB Total-Tube Cover Plates

The BLB total-tube cover plates were individually calibrated in the BHT 6-in x 6-in wind tunnel. Calibration data are on file at BHT. Figure A.1 shows the total tube location and serial number on the rotor.

A.1.3 Strain Gages

Strain gages were tested and calibrated in accordance with Bell Helicopter standard practices, which are routinely employed on all load level flight tests. Precalibration tests were performed to verify the electrical continuity and integrity of all strain gages, terminal strips and associated wiring. Calibration of each strain-gaged component was accomplished by applying known loads, traceable to the National Bureau of Standards, and deriving accurate calibration factors from the resulting outputs.

A.1.4 Hot Wire Sensors

Hot wire sensors were not calibrated in engineering units since the outputs (data) were only required to be qualitative; i.e., hotter or cooler. Under no wind (nonrotating) conditions, the

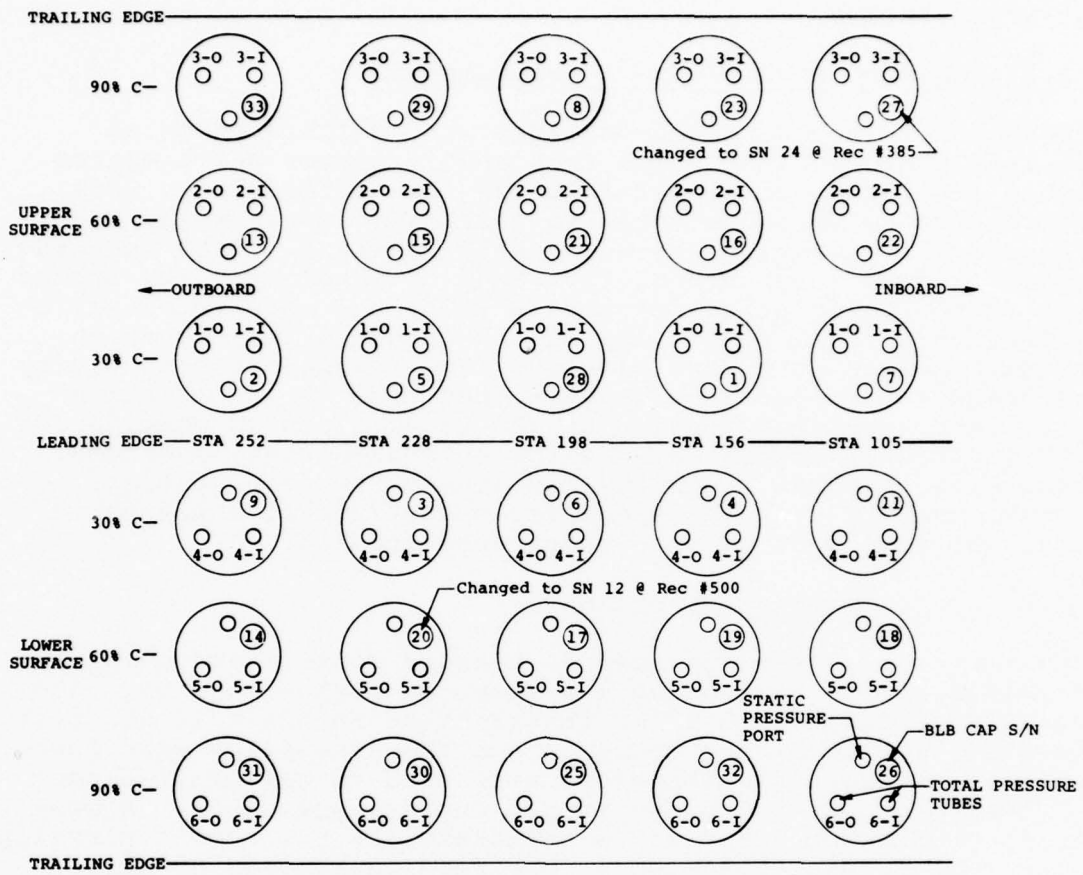


Figure A.1. Location of serially numbered BLB total tube cover plates.

drive current to each of the five series strings of hot wires was measured and set to approximately 200 milliamperes by setting the output voltage level of the associated constant voltage hot-wire drive module. This verified the electrical continuity and integrity of each hot-wire string. Correct functioning of each hot-wire data channel was proved by applying a small jet of air to each of the 80 hot-wire elements and observing a corresponding downscale deflection of the associated data channel.

Physical integrity and freedom from contamination were checked prior to each flight by a detailed visual examination of each hot-wire station.

A.1.5 Unbonded Strain-Gage Accelerometers

Unbonded strain-gage accelerometers were calibrated on an electrodynamic exciter. The test accelerometer was compared with a standard accelerometer during the calibration. Both accelerometers were subjected to various g levels while the frequency of vibration was being held constant. Data were recorded at levels throughout the range of interest. The second part of the calibration involved shaking the accelerometers at a constant g level while varying the frequency of vibration. The data points were then plotted. The transducer sensitivity and frequency response were determined from the calibration plot. Accelerometer testing by the vendor insured compliance with contractor specifications for output voltage, overload, hysteresis, natural frequency and transverse acceleration. Thermal testing over the specified operating and compensated range was also part of the vendor test program.

A.1.6 Potentiometer Assemblies

Potentiometer assemblies used to measure control and pylon positions, blade feathering and flapping angles, and yaw boom angles were calibrated after installation on the test aircraft. The potentiometers were centered, and the assemblies were functionally tested. Inclinometers were used to calibrate blade feathering and flapping angles and control positions. A precision protractor was used to calibrate the yaw boom's sideslip and pitch angles. Pylon positions were calibrated by using feeler gages. All data were measured on digital voltmeters and recorded simultaneously on the flight recorder.

A.1.7 Attitude and Attitude-Rate Gyros

Attitude and attitude-rate gyros were functionally tested and calibrated in the laboratory. The test aircraft was leveled, and the gyros were shimmed when they were installed to assure a true gaged zero for pitch and roll. The yaw gyro was further aligned with the aircraft's axis and was uncaged only during prime data acquisition.

A.2 SPECIFICATION REVIEW AND GUARANTEE OF PERFORMANCE

This section is devoted to a discussion of the specifications and performance of the pressure unit, which was guaranteed by Kulite.

A.2.1 Physical

The pressure transducer fit in the housing supplied by BHT. Connections to the transducer were made to solder tabs. Factory installed leads 24 inches long were left on the units to facilitate testing at BHT.

A.2.2 Pressure Ranges

A.2.2.1 Absolute Transducers

The ranges of the transducer were as specified (Figure 5). The transducers gave zero electrical output (± tolerance specified later) at an applied pressure of 14.7 psia.

A.2.2.2 Differential Transducers

The ranges of the transducers were as specified. (Full Scale Output is defined as -psid to +psid.) Zero electrical output (± tolerance specified in Section A.2.10) was at 0 psid.

A.2.3 Bridge Configuration

The bridge configuration was a fully active four-arm Wheatstone bridge with the gaged elements diffused into a single-crystal silicon.

A.2.4 Bridge Resistance

A.2.4.1 Input (Excitation) Impedance

The input impedance of the sensor was greater than 900 ohms.

A.2.4.2 Output Impedance

The output impedance of the sensor was less than 1100 ohms.

A.2.5 Bridge Excitation

The sensor met the specifications with an excitation voltage.

A.2.6 Output Voltage

The output voltage was greater than 2.5 mV/psi, open circuit.

A.2.7 Combined Nonlinearity and Hysteresis

The combined nonlinearity and hysteresis was less than ±1% of Full Scale (FS).

A.2.8 Repeatability

Repeatability was ±0.25%.

A.2.9 Temperature Range

Operating:	0 - 150°F
Compensated:	0 - 150°F

A.2.10 Zero Balance

Residual zero unbalance was ±4 mV maximum.

A.2.11 Thermal Zero Shift

The transducer was compensated to ensure a maximum output of ±0.02%/° FS/°F, due to thermal input at room ambient pressure, over the compensated temperature range.

A.2.12 Thermal Sensitivity (Span) Shift

The transducer was compensated to ensure a maximum output of ±0.02%/°F, due to pressure and thermal inputs, over the compensated range.

A.2.13 Thermal Hysteresis

The transducer did not exhibit a change in output of greater than 1% of full scale, after thermal cycling from 80°F to 150°F to 0°F to 80°F.

A.2.14 Overload Capability

The transducer withstood an overload of 100% FS without damage or specification change.

A.2.15 Natural Frequency

The natural frequency of the transducer was a minimum of 30 kHz.

A.2.16 Acceleration Sensitivity

The figures specified, i.e.,

Transverse	±0.0001%FS/g
Perpendicular	±0.0005%FS/g

hold good for a 1.5 mil (0.0015") thick silicon diaphragm. However, to achieve the required output sensitivity (Section A.2.6), it was necessary to use a slightly thinner diaphragm, i.e.,

1.3 mil (0.0013"). The specific outputs due to perpendicular and transverse acceleration loading are shown in the following table.

Silicon Diaphragm - Perpendicular Acceleration

Pressure Range	Thickness (t) (mils)	PSI/g	%FS/g
± 5psi(10 psi=FS)	1.3	0.00011	.0011
±10psi(20 psi=FS)	1.5	0.00013	.0006
±15psi(30 psi=FS)	1.5	0.00013	.00045
±20psi(40 psi=FS)	1.5	0.00013	.0003

$$S_\alpha = \frac{\rho t}{\omega} = \text{static accel. sens./g}$$

$\rho = 8.7 \times 10^{-2}$ lb/in^3 (for Si)

t = thickness of diaphragm (inches)

ω = pressure (psi)

Transverse Acceleration. It can be readily shown that the transverse acceleration output is at least a factor of 5 less than the perpendicular output. To verify the theoretical output figures, a set of curves, Figure A.2, obtained experimentally is enclosed. The data were obtained from an independent source.

One interesting point is that the transverse output due to acceleration to 1000 g is zero or so low as to be not measurable.

A.3 TEST PLAN

A.3.1 General

This test plan defined the tests that were performed to ensure compliance with the specifications for the pressure transducers.

Testing was performed at Kulite Semiconductor Products, Inc., Ridgefield, New Jersey and Wyle Labs, California. Wyle Labs was contracted to perform centrifugal testing to 1000 g in a transverse mode; i.e., parallel with the diaphragm.

All testing performed at Kulite is under the control of the Quality Control Manager. In addition, a resident Government Inspector continually monitors the system to ensure compliance with MIL-I-45208A.

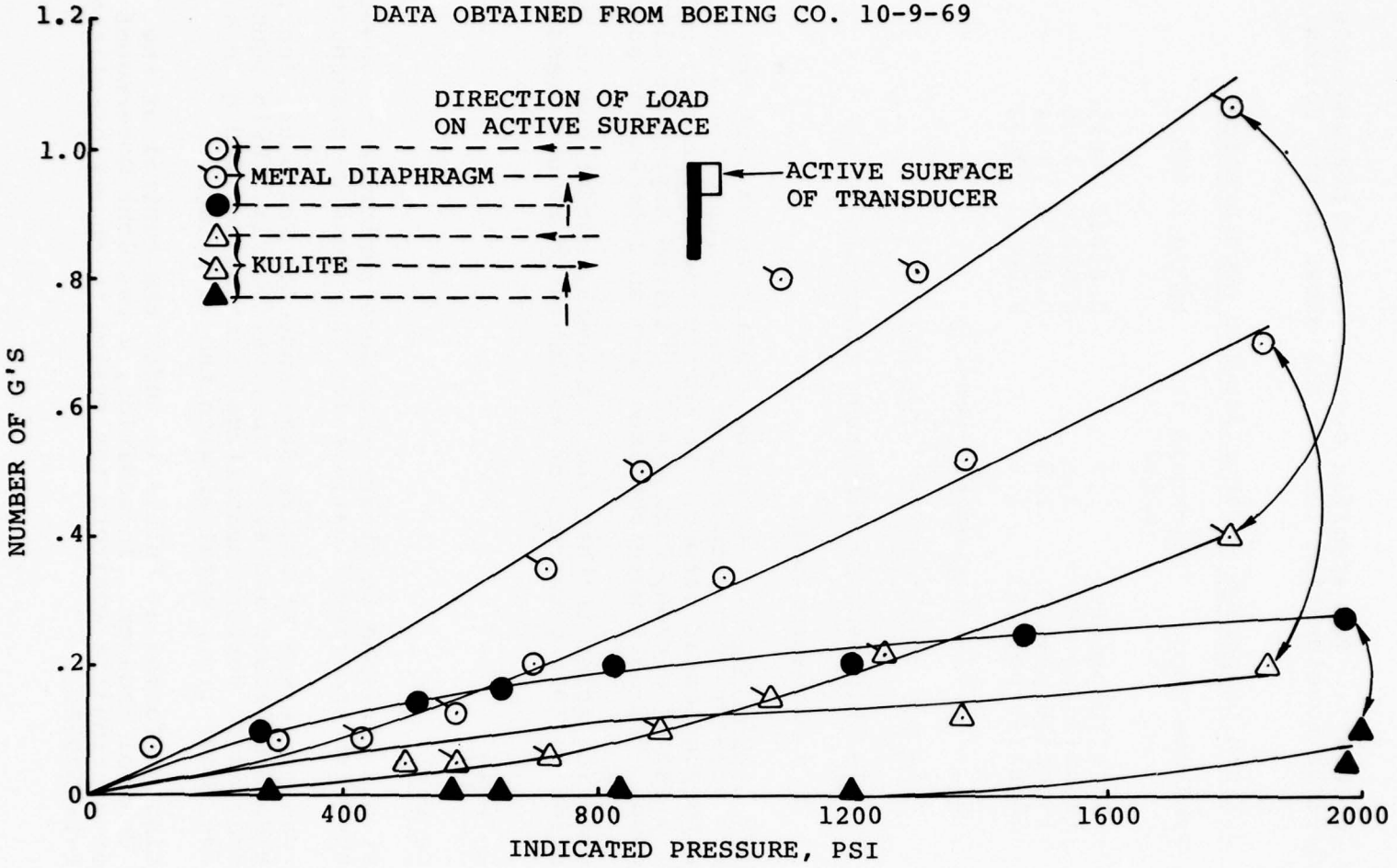


Figure A.2. Centrifugal Loading of Pressure Transducers.

A.3.2 Kulite Performed Testing

The following tests were performed on completed units, mounted in BHT-supplied housings.

A.3.2.1 Pressure Testing (Room Temperature)

The completed transducer was pressure tested over its full range, using 11 points, increasing and decreasing the pressure two times. This calibration was run after exercising the transducer from minimum to maximum pressure three times, in accordance with I.S.A. standard recommended practices.

From data acquired in accordance with the above procedure, the following specified parameters were satisfied.

Nonlinearity
Hysteresis
Repeatability
Output Voltage

A.3.2.2 Thermal Testing

The above testing was, in general, repeated with the unit in an environmental chamber, so that discrete temperatures could be applied to the transducers. For the proposed temperature range, temperatures of 0°F, 50°F, room temperature and 150°F were used. During preliminary testing, i.e., during compensation, it was decided to change the specific temperatures listed to provide maximum information regarding the thermal behavior of the unit. The thermal tests yeilded information on the following parameters:

Thermal Zero Shift
Thermal Sensitivity Shift
Thermal Hysteresis

A.3.2.3 Nonoperating Tests

The following measurements were made, nonoperating to ensure compliance.

Physical-Visual and Dimensional
Bridge Resistance
Zero Imbalance

A.3.2.4 Overload Pressure

This parameter was measured during the manufacturing process prior to thermal compensation and final assembly. Any unit that

did not meet the criteria laid down, i.e., static error band and repeatability, was rejected and not used.

A.3.2.5 Natural Frequency

Kulite uses a company-owned shock tube to describe the natural frequency of the transducer. This testing was performed on a randomly selected sample from each pressure range.

A.3.2.6 Centrifugal Testing

This testing was conducted at Wyle Labs, California. The first four of each pressure range were tested to ensure compliance with the specified levels. Further units were tested in accordance with MIL-STD-105D, which defines random sampling batch sizes and criteria. The units were mounted on a fixture and rotated to a level of 1000 g. The transducer axis in which the 1000 g were generated was transverse parallel to the diaphragm. The units were tested with and without full-scale pressure being applied. The output of the transducers was monitored during the CF testing, and the data were reported.

A.4 SPECIFICATION REVIEW AND GUARANTEE OF PERFORMANCE

This section is devoted to a discussion of the specifications and performance of the accelerometer unit, which were guaranteed by Kulite.

A.4.1 Physical

The accelerometer was 0.12 in. x 0.12 in. x 0.75 in. as specified by BHT. Connections to the transducer were made via leads that were color coded and 24 inches long. Compensation was internal.

A.4.2 Acceleration

The ranges of the accelerometer were ±50 g, which is full scale.

A.4.3 Bridge Configuration

The bridge configuration was a full, active, four-arm Wheatstone bridge with semiconductor gages bonded to a flexure.

A.4.4 Bridge Resistance

A.4.4.1 Input (Excitation) Impedance

The input impedance of the sensor was greater than 900 ohms.

A.4.4.2 Output Impedance

The output impedance of the sensor was less than 1100 ohms.

A.4.5 Bridge Excitation

The sensor met the specifications with an excitation voltage of 8.0 VDC.

A.4.6 Output Voltage

The output voltage was greater than 2.5 mV/g, open circuit.

A.4.7 Overload Acceleration

The accelerometer withstood 100% overload without damage or offset occurring.

A.4.8 Combined Nonlinearity and Hysteresis

The combined nonlinearity and hysteresis was less than ±1% of full scale.

A.4.9 Transverse Acceleration Sensitivity

The transverse acceleration sensitivity was less than 3%.

A.4.10 Natural Frequency

The natural frequency was greater than 1000 Hz.

A.4.11 Temperature Range

Operating:	0 - 150°F
Compensated:	0 - 150°F

A.4.12 Thermal Zero Shift

The transducer was compensated to ensure a maximum output of ±1% FS/100°F, due to thermal input at room ambient pressure, over the compensated temperature range.

A.4.13 Thermal Sensitivity (Span) Shift

The transducer was compensated to ensure a maximum output of ±2%/100°F, due to pressure and thermal inputs, over the compensated range.

A.4.14 Thermal Hysteresis

The accelerometer did exhibit a change in output of greater than 1% of full scale, after thermal cycling from 80°F to 150°F to 0°F to 80°F.

A.5 ACCELEROMETER TEST PLAN

A.5.1 General

This section defines the tests that were performed to ensure compliance with the specifications for the accelerometer.

Testing was performed in its entirety at Kulite Semiconductor Products, Inc.

All testing was under the control of the Quality Control Manager. In addition, a resident Government Source Inspector continually monitored the system.

A.5.2 Physical and Dimensional

The unit was measured to comply with the specified dimensions and electrical terminators.

A.5.3 Bridge Resistance

The bridge resistance was measured to ensure compliance with specified values.

A.5.4 Functional Testing

The accelerometer was excited with voltage specified in Section A.2. It was then mechanically excited using an MB Model Pm 50 Shaker, over the frequency and amplitude ranges necessary to ensure compliance with

Output Voltage
Overload - 100%
Combined Nonlinearity and Hysteresis
Natural Frequency > 1000 Hz
Transverse Acceleration

A.5.5 Thermal Testing

The accelerometer was thermally tested to ensure compliance with specifications over the operating and compensated ranges specified.

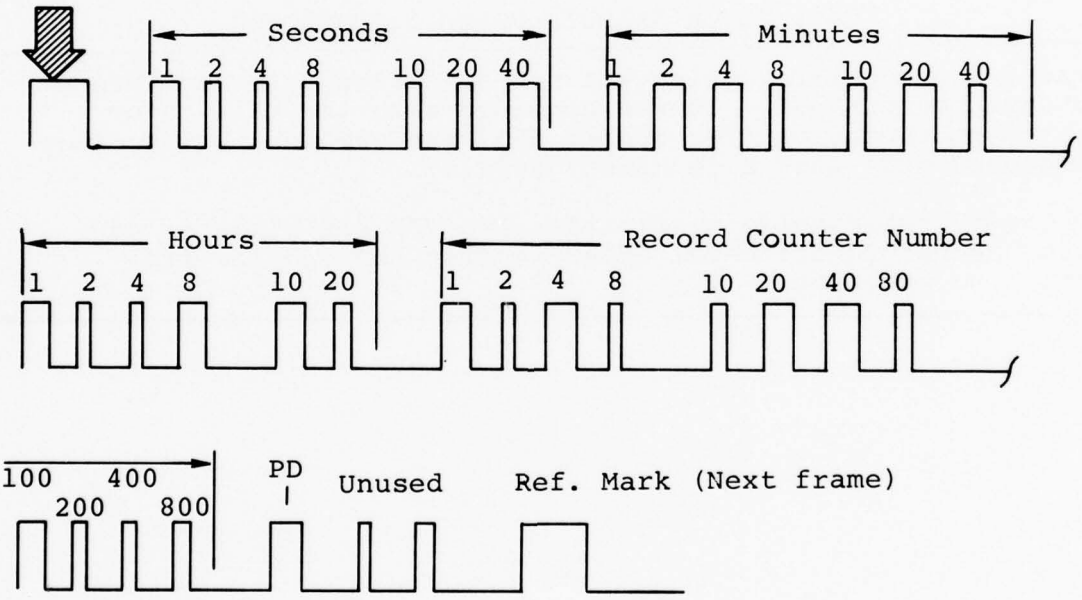
APPENDIX B

DATA APPLICATION EXAMPLE

B.1 GENERAL INFORMATION

General information about the data tapes is given in Tables B.1 and B.2. Table B.1 gives necessary information about the main rotor and tail rotor azimuth pulses. Table B.2 gives the VCO frequency assignments for a data track. Following is a sample of the time code and record counter number found on the data tape.

The time code is a serial pulse train. Hours, minutes, and seconds are in IRIG B format. Additional code bits are listed to indicate record counter number and to identify prime data (PD). The format for one frame is shown below:



Binary Zero = 1 unit width

Binary One = 2 unit widths

Ref. Mark = 4 unit widths

In the example above, the time (±0.5 msec) at the large arrow is 41 sec, 26 min, and 19 hr; and the record number is 165.

TABLE B.1 MAIN ROTOR AZIMUTH PULSE INFORMATION

FLIGHT NUMBER	DATA ITEM CODE	FIRST RECORD COUNTER NUMBER	PULSE INDEX POSITION OF RED BLADE
22A	RØ18	ØØ1	30° 19' before tail boom
31A 32A	R1Ø6	522	Over tail boom
35A-45D	R992	583	Over tail boom

TAIL ROTOR AZIMUTH PULSE INFORMATION

The T/R one-per-rev pulse was not activated prior to record counter number 583. It was combined with the main rotor pulse at record counter number 583; the combined pulses were assigned data item code number R992.

The tail rotor pulse occurs when the T/R red blade is 45 degrees below horizontal after passing through the aft trailing position.

TABLE B.2 MULTIPLEX VCO FREQUENCY ASSIGNMENTS

BAND	CENTER FREQUENCY kHz	CENTER FREQUENCY Hz	DATA BANDWIDTH Hz
1	1.5	±250	50
2	2.5	±250	50
3	3.5	±250	50
4	4.5	±250	50
5	5.5	±250	50
6	6.5	±250	50
7	10.0	±1000	200
8	14.0	±1000	200
9	18.0	±1000	200
10	22.0	±1000	200
11	26.0	±1000	200
12	30.0	±1000	200
13	34.0	±1000	200
14	44.0	±2000	400
15	52.0	±2000	400
16	60.0	±2000	400
Reference oscillator 68.0 kHz			
Level code (System Status) VCO frequencies:			
System error	518.0 Hz		
Data	534.8 Hz		
Prime data	551.6 Hz		
CAL command	568.4 Hz		
CAL shift	585.2 Hz		

B.2 GENERAL PROCEDURE

- Select flight condition of interest from Tables B.3, B.4 or B.5.
- List flight number and record counter number.
- List the data item number of each transducer of interest from the CORRECT set-up sheet, Table B.6.
- List track and band of each selected data item.

B.3 ANALOG TAPE

- Set tape drive to correct tape speed per Table B.7 (page 275) and use a 28-track head-stack with read electronics; set up direct for MUX tracks and FM for other items per set-up sheet.
- Program analog data system tape search unit to recognize selected record counter number from time code on track 14.
- Set filters and discriminators as desired to read selected bands from selected tracks.
- Set up strip-out or plotting equipment to produce desired output format.
- Run system to produce desired output.

B.4 DIGITAL TAPE

- The digital tapes delivered under this program may be utilized directly with most digital data systems.
- Items of interest are selected as outlined in Section B.2.
- Software programs for production of the desired analysis or other utilization must be created. Reference 8 is a detailed description of the digital tape format upon which the software programs must be based.

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[8]Tieman, L. J., op.cit.

TABLE B.3 FLIGHT CONDITIONS AND COUNTER NUMBERS FOR BASIC PROGRAM

G.W. ►	8100 lb (clean)			9000 lb (HOG)		
C.G. ►	Fwd	Mid	Aft	Fwd	Mid	Aft
Flight Condition	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr
Normal start	-	45C 1084	-	-	-	-
Normal shutdown	-	45A 1053	-	-	-	-
Normal takeoff	-	45C 1085	-	-	-	-
Normal acceleration	-	45C 1087	-	-	-	-
Normal deceleration	-	45A 1048	-	-	-	-
Normal landing	-	45C 1099	-	-	-	-
Hover, IGE	-	45C 1098	-	-	31A 535	-
Hover, OGE	-	45B 1078	-	-	37B 685	-
Forward flight, 0.5 V_h	45C 1088	43 860	35A 611	35B 618	36A 636	37A 676
Forward flight, 0.6 V_h	↕ 1089	↕ 863	↕ 612	↕ 619	↕ 637	↕ 677
Forward flight, 0.7 V_h	↕ 1090	↕ 864	↕ 613	↕ 620	↕ 638	↕ 678
Forward flight, 0.8 V_h	↕ 1091	↕ 865	↕ 614	↕ 621	↕ 639	↕ 679
Forward flight, 0.9 V_h	↕ 1092	↕ 868	↕ 615	↕ 622	↕ 640	↕ 680
Forward flight, 1.0 V_h	45C 1093	43 869	35A 610	35B 617	36A 635	37A 675
Climb at 1100 shp	-	22A 367	-	-	-	-
Maximum level flight acceleration	-	22A 377	-	-	-	-
Pullups	-	32A 562	-	-	-	-
Pushovers	-	↑ 563	-	-	-	-
Gunnery dive	-	↕ 568	-	-	35C 626	-
Gunnery dive, left pullout	-	↕ 569	-	-	↕ 625	-
Gunnery dive, right pullout	-	↕ 571	-	-	↓ 35C 627	-
Gunnery dive, symmetrical pullout	-	↓ 32A 567	-	-	31 538	-
Power to autorotation	-	45C 1094	-	-	-	-
Autorotation to power	-	45C 1095	-	-	-	-
Partial power descent	-	45A 1047	-	-	-	-

TABLE B.3 (CONCLUDED)

G.W. ►	8100 lb (clean)			9000 lb (HOG)		
C.G. ►	Fwd	Mid	Aft	Fwd	Mid	Aft
Flight Condition	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr	Flt/Ctr
Left turn, 1.5g	-	32A 559	-	-	31 547	-
Left turn, 1.7g	-	560	-	-	35C 631	-
Left turn, 2.0g	-	32A 561	-	-	31 549	-
Right turn, 1.5g	-	32A 556	-	-	35C 628	-
Right turn, 1.7g	-	557	-	-	629	-
Right turn, 2.0g	-	32A 558	-	-	35C 630	-

TABLE B.4 FLIGHT CONDITIONS AND COUNTER NUMBERS FOR NOE MANEUVERS

	G.W.► 8100 lb	9000 lb
	C.G.► Mid	Mid
Flight Condition	Flt/Ctr	Flt/Ctr
Hover OGE (50')	37D 722	37B 685
Hover OGE (100')	723	-
Pop up IGE to 50' OGE	722	37B 705
Pop up NOE flight to 50' OGE	743	685
Forward flight @50'@ 10 KN	724	686
Forward flight @ 50'@ 20 KN	725	687
Forward flight @ 50'@ 30 KN	726	688
Forward flight @ 50'@ 40 KN	727	689
Forward flight @ 50'@ 50 KN	728	690
Descend from 50' OGE to IGE	742	704
90° right turn & accel to 70 KN	744	708
90° left turn & accel to 70 KN	746	709
Deceleration from 50 KN to OGE hover @100'	729	691
Deceleration from 50 KN to OGE hover @100'-level att.	745	707
360° turn @50' record at 210°	731	693
240°	732	694
270°	733	695
300°	734	696
330°	735	697
0°	736	698
30°	737	699
60°	738	700
90°	739	701
120°	740	702
150°	741	703
180°	730	37B 692
Right sideward flight @ 30 KN with deceleration	717	37C 711
Dir. reversal and acceleration to 30 KN left sideward flight	718	712
Left sideward flight @ 30 KN with deceleration	720	713
Dir. reversal and acceleration to 30 KN right sideward flight	37D 721	37C 714

TABLE B.5 FLIGHT CONDITIONS AND COUNTER NUMBERS FOR NOISE LEVEL TEST

	Airspeed - Knots												
Flight Condition	40	50	55	60	65	70	75	80	90	100	110	120	130
Level Flight	856	857	858	859	860	861	862	863	864	865	866	868	869
Climb @100 FPM	945	957	-	967	978	1022	-	1031	-	-	-	-	-
Climb @200 FPM	944	958	-	-	-	-	-	-	-	-	-	-	-
Descend @100 FPM	946	959	-	968	979	1023	-	1032	-	-	-	-	-
Descend @200 FPM	947	960	-	969	981	1024	-	1033	1040	1044	-	-	-
Descend @300 FPM	950	961	-	970	984	1025	-	1034	-	-	-	-	-
Descend @400 FPM	951	962	-	972	983	1026	-	1035	1041	1045	-	-	-
Descend @500 FPM	952	963	-	974	985	1027	-	1036	-	-	-	-	-
Descend @600 FPM	954	964	-	975	986	1028	-	1037	1042	1046	-	-	-
Descend @700 FPM	955	965	-	976	987	1029	-	1038	-	-	-	-	-
Descend @800 FPM	956	966	-	977	988	1030	-	1039	1043	1047	-	-	-
Descent @900 FPM	-	-	-	-	989	-	-	-	-	-	-	-	-
Descent @1000 FPM	-	-	-	-	990	-	-	-	-	-	-	-	-

TABLE B.5 (CONCLUDED)

Flight Condition	Airspeed - Knots											
	40	50	60	65	70	75	80	90	100	110	120	130
Level flight @300 ft	1065	-	1066	-	-	-	1067	-	1068	-	1070	1073
Descend @100 FPM	-	1056	-	-	-	-	1062	-	-	-	-	-
Descend @200 FPM	-	-	-	1060	-	-	-	-	-	-	-	-
Descend @400 FPM	-	-	-	1061	-	-	-	-	-	-	-	-
Descend @600 FPM	-	1058	-	-	-	-	1064	-	-	-	-	-

	A/S - Knots		
	140	150	165
Dive and level out @100 ft	1109	1110	1105
Dive and level out @200 ft	-	-	1111
Dive and level out @300 ft	1103	1108	1106

	Azimuth of Microphone			
	0°	90°	180°	270°
IGE Hover @5 ft	1075	1076	1077	1074
OGE Hover @100 ft	1080	1081	1078	1079

Flt. No.	Ctr. No.	
43A	856 → 869	Airborne Tests
44C	944 → 990	
45A	1022 → 1053	
45B	1055 → 1081	Airborne and Ground Tests
45C	1084 → 1101	
45D	1103 → 1111	

TABLE B.6 DETAIL SET-UP SHEETS

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BG FIRST REC 363
FIRST FLT 22-A S/N 20391 DATE 11-26-75 LAST REC 377

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
F050	1	01	1	LIFT LINK AXIAL FORCE	LB	23126.1	-1407.00	FW	11034.0	0	5.84
A005	1	02	1	C.G. LOAD FACTOR	G	2.36626	1.00000	FW	1.12900	0	5.84
F102	1	03	1	COLLECTIVE BOOST TUBE A.F.	LB	9540.49	0.000000	FW	4552.00	0	5.84
F101	1	04	1	LAT CYCLIC BOOST TUBE A.F.	LB	9620.14	0.000000	FW	4590.00	0	5.84
F100	1	05	1	F/A CYCLIC BOOST TUBE A.F.	LB	10181.8	0.000000	FW	4858.00	0	5.84
F103	1	06	1	MR RED PITCH LINK AXIAL FORCE	LB	6715.46	0.000000	FW	3248.00	0	5.92
B112	1	07	320	MR RED YOKE BM BEND STA 6	IN LB	72635.0	-41158.0	FO	13971.0	0	5.91
B115	1	08	1	MR RED YOKE CH BEND STA 11.5	IN LB	286478.	0.000000	FB	275729.	0	5.91
B120	1	09	320	MR RED BLADE BM BEND STA 60	IN LB	62068.6	-23126.0	FW	29868.0	0	5.89
B122	1	10	320	MR RED BLADE BM BEND STA 132	IN LB	38584.1	-11098.0	FW	18567.0	0	5.89
B126	1	11	320	MR RED BLADE BM BEND STA 81.5	IN LB	48883.1	-19725.0	FW	23523.0	0	5.89
F105	1	12	1	MR RED DRAG BRACE AXIAL FORCE	LB	30242.6	0.000000	FW	14553.0	0	5.89
B123	1	13	1	MR RED BLADE CH BEND STA 132	IN LB	277973.	0.000000	FW	133763.	0	5.89
B127	1	14	59	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
M150	1	15	1	MR RED BLADE TORSION STA 81.5	IN LB	33167.5	0.000000	FB	31815.0	0	5.89
M207	1	16	1	TR MAST TORQUE	IN LB	8299.47	0.000000	FW	3987.00	0	5.88
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
A321	2	07	320	90 DEG G.B. VERT VIBR STA 518	G	9.49849	1.00000	FW	4.56300	0	5.88
A306	2	08	320	NOSE LAT VIBRATION STA 46	G	3.11889	0.000000	FW	1.48300	0	5.8[illegible]
A304	2	09	1	GUNNER LAT VIBRATION STA 100	G	4.95734	0.000000	FO	0.939000	0	5.82
A307	2	10	1	AFT FUS LAT VIBRATION STA 249	G	5.11928	0.000000	FO	0.993000	0	5.96
A311	2	11	320	UPPER FIN LAT VIBR STA 521	G	56.1604	0.000000	FY	5.35600	0	5.88
A600	2	12	1	LT WING VERT VIBRATION STA 195G		5.05085	1.00000	FO	0.960000	0	5.84
A601	2	13	1	RT WING VERT VIBRATION STA 195G		4.97193	1.00000	FO	0.945000	0	5.84
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
D007	3	01	1	SIDESLIP ANGLE	DEG	96.7002	0.000000	FW	45.9800	0	5.82
D008	3	02	1	ANGLE OF ATTACK	DEG	86.3740	-3.70000	FW	41.0700	0	5.82
D051	3	03	1	LT FWD PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D052	3	04	1	RT FWD PYLON VERT POS	IN	0.562959	0.000000	FO	0.107000	0	5.84

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
D053	3	05	1	LT AFT PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D054	3	06	1	RT AFT PYLON VERT POS	IN	0.543492	0.000000	FO	0.103300	0	5.84
A315	3	07	320	NOSE VERT VIBRATION STA 46	G	3.23035	1.00000	FW	1.53600	0	5.82
A020	3	08	320	GUNNER VERT VIBRATION STA 100	G	2.79501	1.00000	FW	1.32900	0	5.82
A019	3	09	1	PILOT VERT VIBRATION STA 146	G	5.58421	1.00000	FO	1.08500	0	5.97
A316	3	10	1	AFT FUS VERT VIBRATION STA 249	G	4.69139	1.00000	FO	0.910000	0	5.96
A317	3	11	1	T/B JCT VERT VIBRATION STA 297	G	5.11065	1.00000	FO	0.988000	0	5.94
A318	3	12	1	T/B @ ELEV VERT VIBR STA 400	G	7.80047	1.00000	FO	1.50800	0	5.94
R511	3	13	1	ENGINE (N2)	RPM	6184.61	8725.29	ZA	93.8000	0	1.00
P002	3	14	1	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
P030	3	15	363	STATIC PRESSURE-BOOM SYSTEM	PSIA	6.03798	14.7100	FW	2.87100	0	5.82
T004	3	16	320	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
D010	4	01	1	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	4	02	1	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
D011	4	03	1	YAW ATTITUDE	DEG	207.871	0.000000	FO	39.7800	0	5.88
V013	4	04	1	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
V012	4	05	1	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	4	06	1	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A319	4	07	1	T/B LOAD PT VERT VIBR STA 485	G	5.30912	1.00000	FO	1.01600	0	5.88
A320	4	08	320	FIN LOAD PT VERT VIBR STA 521	G	52.4695	1.00000	FY	5.00400	0	5.88
A302	4	09	1	PILOT LAT VIBRATION STA 146	G	5.23423	0.000000	FO	1.01700	0	5.97
A308	4	10	1	T/B JCT LAT VIBRATION STA 297	G	4.97099	0.000000	FO	0.961060	0	5.94
A309	4	11	320	T/B @ ELEV LAT VIBR STA 400	G	13.3378	0.000000	FY	1.28500	0	5.94
A310	4	12	320	T/B LOAD PT LAT VIBR STA 485	G	10.9259	0.000000	FY	1.04200	0	5.88
B121	4	14	320	MR RED BLADE CH BEND STA 60	IN LB	157429.	0.000000	FB	150753.	0	5.88
V151	6	01	320	HWA SEGMENT 1 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V152	6	02	320	HWA SEGMENT 2 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V153	6	03	320	HWA SEGMENT 3 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V154	6	04	320	HWA SEGMENT 4 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V155	6	05	320	HWA SEGMENT 5 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V156	6	06	320	HWA SEGMENT 6 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
P157	6	07	363	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7100	FO	2.60300	0	5.92
P158	6	08	363	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7100	FO	2.64100	0	5.92
P159	6	09	363	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7100	FW	2.43300	0	5.92
P160	6	10	363	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7100	FB	2.64800	0	5.92
P161	6	11	363	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7100	FB	2.00100	0	5.92
P162	6	12	363	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7100	FB	3.31600	0	5.92
P163	6	13	363	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7100	FB	2.13400	0	5.92
P164	6	14	363	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7100	FO	2.97800	0	5.92
P165	6	15	363	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7100	FO	2.92500	0	5.92
P166	6	16	363	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7100	FO	2.49400	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V167	7	01	320	HWA SEGMENT 7 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V168	7	02	320	HWA SEGMENT 8 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V169	7	03	320	HWA SEGMENT 9 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V170	7	04	320	HWA SEGMENT 10 RED STA 105.6	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V171	7	05	320	HWA SEGMENT 1 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V172	7	06	320	HWA SEGMENT 2 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
P173	7	07	363	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7100	FW	2.96600	0	5.92
P174	7	08	363	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7100	FW	2.76100	0	5.92
P175	7	09	363	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7100	FW	2.44300	0	5.92
P176	7	10	363	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7100	FW	4.22500	0	5.92
P177	7	11	363	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7100	FW	2.63200	0	5.92
P178	7	12	363	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7100	FW	1.92100	0	5.92
P179	7	13	363	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7100	FW	2.06200	0	5.92
P180	7	14	363	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7100	FW	2.37300	0	5.93
P181	7	15	363	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7100	FO	2.21100	0	5.93
P182	7	16	363	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7100	FO	2.72300	0	5.93
V183	8	01	320	HWA SEGMENT 3 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V184	8	02	320	HWA SEGMENT 4 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V185	8	03	320	HWA SEGMENT 5 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V186	8	04	320	HWA SEGMENT 6 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	363	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7100	FW	2.61400	0	5.92
P188	8	08	363	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7100	FO	2.79400	0	5.92
P189	8	09	363	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7100	FO	2.66600	0	5.92
P190	8	10	363	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7100	FW	2.60500	0	5.92
P191	8	11	363	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7100	FW	2.52700	0	5.92
P192	8	12	363	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7100	FW	2.85300	0	5.92
P193	8	13	363	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7100	FW	2.94600	0	5.92
P194	8	14	363	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7100	FO	2.34200	0	5.92
P195	8	15	363	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7100	FO	2.76800	0	5.92
P196	8	16	363	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7100	FW	2.91800	0	5.92
V800	9	01	320	HWA SEGMENT 7 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V801	9	02	320	HWA SEGMENT 8 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V802	9	03	320	HWA SEGMENT 9 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V803	9	04	320	HWA SEGMENT 10 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V804	9	05	320	HWA SEGMENT 11 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V805	9	06	320	HWA SEGMENT 12 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
P806	9	07	363	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7100	FW	3.00400	0	5.93
P807	9	08	363	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7100	FW	2.72500	0	5.93
P808	9	09	363	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7100	FW	2.73300	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P809	9	10	363	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7100	FW	2.92100	0	5.92
P810	9	11	363	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7100	FW	2.20100	0	5.92
P811	9	12	363	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7100	FW	2.60600	0	5.92
P812	9	13	363	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7100	FW	2.85700	0	5.92
P813	9	14	363	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7100	FW	2.45100	0	5.93
P814	9	15	363	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7100	FW	2.89000	0	5.93
P815	9	16	363	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7100	FW	2.57900	0	5.93
V816	10	01	320	HWA SEGMENT 13 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V817	10	02	320	HWA SEGMENT 14 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V818	10	03	320	HWA SEGMENT 15 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V819	10	04	320	HWA SEGMENT 16 RED STA 156.4	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V820	10	05	320	HWA SEGMENT 1 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V821	10	06	320	HWA SEGMENT 2 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
P822	10	07	363	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7100	FW	1.95500	0	5.92
P823	10	08	363	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7100	FW	1.42900	0	5.92
P824	10	09	363	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7100	FW	2.79900	0	5.92
P825	10	10	363	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7100	FW	2.75400	0	5.92
P826	10	11	363	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7100	FW	2.06800	0	5.92
P827	10	12	363	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7100	FW	2.85300	0	5.92
P828	10	13	363	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7100	FO	3.00100	0	5.92
P829	10	14	363	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7100	FW	2.82900	0	5.93
P830	10	15	363	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7100	FO	1.90400	0	5.93
P831	10	16	363	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7100	FW	2.26900	0	5.92
V832	11	01	320	HWA SEGMENT 3 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V833	11	02	320	HWA SEGMENT 4 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V834	11	03	320	HWA SEGMENT 5 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V835	11	04	320	HWA SEGMENT 6 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.96
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	363	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7100	FO	2.69600	0	5.88
P837	11	08	363	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7100	FY	2.24500	0	5.88
P838	11	09	363	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7100	FO	2.54800	0	5.88
P839	11	10	363	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7100	FO	2.53300	0	5.88
P840	11	11	363	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7100	FO	2.89800	0	5.88
P841	11	12	363	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7100	FW	2.89100	0	5.88
P842	11	13	363	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7100	FW	2.90400	0	5.88
P843	11	14	363	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7100	FW	2.81100	0	5.88
P844	11	15	363	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7100	FO	2.37800	0	5.88
P845	11	16	363	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7100	FO	2.68600	0	5.88
V846	12	01	320	HWA SEGMENT 7 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V847	12	02	320	HWA SEGMENT 8 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V848	12	03	320	HWA SEGMENT 9 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V849	12	04	320	HWA SEGMENT 10 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V850	12	05	320	HWA SEGMENT 11 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V851	12	06	320	HWA SEGMENT 12 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
P852	12	07	363	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7100	FW	2.85000	0	5.93
P853	12	08	363	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7100	FW	2.64600	0	5.93
P854	12	09	363	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7100	FW	1.69000	0	5.93
P855	12	10	363	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7100	FW	2.71900	0	5.93
P856	12	11	363	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7100	FW	2.80400	0	5.93
P857	12	12	363	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7100	FW	3.05100	0	5.93
P858	12	13	363	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7100	FY	2.79000	0	5.93
P859	12	14	363	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7100	FO	3.02100	0	5.93
P860	12	15	363	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7100	FO	1.76300	0	5.93
P861	12	16	363	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7100	FO	1.62400	0	5.93
R025	13	FM	1	TR AZIMUTH	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	320	HWA SEGMENT 13 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V863	15	02	320	HWA SEGMENT 14 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V864	15	03	320	HWA SEGMENT 15 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V865	15	04	320	HWA SEGMENT 16 RED STA 198	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V866	15	05	320	HWA SEGMENT 1 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V867	15	06	320	HWA SEGMENT 2 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
P868	15	07	363	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7100	FO	2.44200	0	5.93
P869	15	08	363	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7100	FO	2.77000	0	5.93
P870	15	09	363	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7100	FW	1.69000	0	5.93
P871	15	10	363	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7100	FW	1.90100	0	5.93
P872	15	11	363	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7100	FW	1.39500	0	5.93
P873	15	12	363	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7100	FW	2.16800	0	5.93
P874	15	13	363	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7100	FW	2.29800	0	5.93
P875	15	14	363	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7100	FW	2.62800	0	5.93
P876	15	15	363	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7100	FW	1.82300	0	5.93
P877	15	16	363	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7100	FW	1.87700	0	5.93
V878	16	01	320	HWA SEGMENT 3 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V879	16	02	320	HWA SEGMENT 4 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V880	16	03	320	HWA SEGMENT 5 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V881	16	04	320	HWA SEGMENT 6 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
B882	16	05	1	MR MAST PAPA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PEPP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	363	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7100	FW	1.69700	0	5.93
P885	16	08	363	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7100	FW	1.99500	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
B116	16	09	320	MR PITCH HORM BM BEND STA 4	IN LB	16650.8	0.000000	FB	16026.0	0	5.91
B117	16	10	320	MR PITCH HORM BM BEND STA 16	IN LB	40089.2	0.000000	FB	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	320	MR RED YOKE BM VIBR STA 3.5	G	6.00008	1.00000	FW	2.90200	0	5.92
A890	16	13	320	MR RED YOKE BM VIBR STA 11	G	5.43564	1.00000	FW	2.62900	0	5.92
P891	16	14	363	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7100	FW	1.83900	0	5.93
P892	16	15	363	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7100	FW	2.74900	0	5.93
P893	16	16	363	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7100	FW	2.02100	0	5.93
V894	17	01	320	HWA SEGMENT 7 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V895	17	02	320	HWA SEGMENT 8 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V896	17	03	320	HWA SEGMENT 9 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V897	17	04	320	HWA SEGMENT 10 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V898	17	05	320	HWA SEGMENT 11 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V899	17	06	320	HWA SEGMENT 12 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FQ	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FQ	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	363	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7100	FW	2.67800	0	5.92
P908	17	15	363	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7100	FQ	2.61900	0	5.92
P909	17	16	363	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7100	FQ	2.56700	0	5.92
V910	18	01	320	HWA SEGMENT 13 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V911	18	02	320	HWA SEGMENT 14 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V912	18	03	320	HWA SEGMENT 15 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V913	18	04	320	HWA SEGMENT 16 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V914	18	05	320	HWA SEGMENT 17 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V915	18	06	320	HWA SEGMENT 18 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FQ	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PAPA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.85
B114	18	11	320	MR WHITE YOKE BM BEND STA 11.5	IN LB	61151.0	-38531.0	FQ	11782.0	0	5.92
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PEPP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	363	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7100	FQ	2.32200	0	5.90
P920	18	15	363	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7100	FQ	2.46400	0	5.90
P921	18	16	363	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7100	FQ	2.68800	0	5.90
V922	19	01	320	HWA SEGMENT 19 RED STA 228	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V923	19	02	320	HWA SEGMENT 1 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V924	19	03	320	HWA SEGMENT 2 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V925	19	04	320	HWA SEGMENT 3 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	320	MR RED BLADE BM4BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88
B131	19	12	1	MR RED BLADE CH BEND STA 155.8	IN LB	62820.5	0.000000	FR	120008.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	363	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7100	FO	2.53200	0	5.90
P927	19	15	363	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7100	FO	2.56900	0	5.90
P928	19	16	363	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7100	FO	2.89000	0	5.90
V929	20	01	320	HWA SEGMENT 4 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V930	20	02	320	HWA SEGMENT 5 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V931	20	03	320	HWA SEGMENT 6 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V932	20	04	320	HWA SEGMENT 7 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V933	20	05	320	HWA SEGMENT 8 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V934	20	06	320	HWA SEGMENT 9 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
B135	20	07	1	MR RED BLADE CH BEND STA 238	IN LB	81733.9	0.000000	FR	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	363	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7100	FW	2.46400	0	5.92
P942	20	15	363	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7100	FW	2.32500	0	5.92
P943	20	16	363	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7100	FW	2.89100	0	5.92
V944	21	01	320	HWA SEGMENT 10 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V945	21	02	320	HWA SEGMENT 11 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V946	21	03	320	HWA SEGMENT 12 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V947	21	04	320	HWA SEGMENT 13 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V948	21	05	320	HWA SEGMENT 14 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V949	21	06	320	HWA SEGMENT 15 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
A950	21	07	1	MR RED BLADE BM VIBR STA 132	G	49.5741	1.00000	FG	2.38100	0	5.92
A951	21	08	1	MR RED BLADE BM VIBR STA 155.8	G	46.0346	1.00000	FG	2.21100	0	5.92
A952	21	09	1	MR RED BLADE BM VIBR STA 184.8	G	44.3689	1.00000	FG	2.13100	0	5.92
A953	21	10	1	MR RED BLADE BM VIBR STA 238.1	G	45.4308	1.00000	FG	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	363	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7100	FW	2.58400	0	5.92
P958	21	15	363	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7100	FW	2.20500	0	5.92
P959	21	16	363	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7100	FW	2.91000	0	5.92
V960	22	01	320	HWA SEGMENT 16 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V961	22	02	320	HWA SEGMENT 17 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V962	22	03	320	HWA SEGMENT 18 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
V963	22	04	320	HWA SEGMENT 19 RED STA 252	% FS	60.0004	30.0000	FY	5.83900	0	6.00
P964	22	05	1	BL BUTTON 4-O RED STA 252	PSI	12.3686	0.000000	FO	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	363	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7100	FO	2.54800	0	5.91
P974	22	15	363	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7100	FO	2.62100	0	5.91
P975	22	16	363	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7100	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	1	BL BUTTON 6-I RED STA 228	PSI	8.36227	0.000000	FO	1.60300	0	5.89
P981	23	06	1	BL BUTTON 6-O RED STA 228	PSI	9.13433	0.000000	FO	1.75100	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	363	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7100	FO	2.50600	0	5.91
P990	23	15	363	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7100	FO	1.98200	0	5.91
P991	23	16	363	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7100	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	1	BL BUTTON 5-O RED STA 198	PSI	5.51424	0.000000	FW	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88
P737	24	13	1	BL BUTTON 3-O RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	363	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7100	FW	2.57900	0	5.90
P739	24	15	363	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7100	FW	1.87300	0	5.90
P740	24	16	363	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7100	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-O RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-O RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-O RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-O RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-O RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-O RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-O RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	363	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7100	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-O RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-O RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-O RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-O RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-O RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-O RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-O RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-O RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
R018	27	FM	1	MR AZIMUTH	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER AX FIRST REC 533
FIRST FLT 31-A S/N 20391 DATE 8-26-75 LAST REC 551

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
F050	1	01	1	LIFT LINK AXIAL FORCE	LB	23126.1	-1407.00	FW	11034.0	0	5.84
A005	1	02	1	C.G. LOAD FACTOR	G	2.36626	1.00000	FW	1.12900	0	5.84
F102	1	03	1	COLLECTIVE BOOST TUBE A.F.	LB	9540.49	0.000000	FW	4552.00	0	5.84
F101	1	04	1	LAT CYCLIC BOOST TUBE A.F.	LB	9620.14	0.000000	FW	4590.00	0	5.84
F100	1	05	1	F/A CYCLIC BOOST TUBE A.F.	LB	10181.8	0.000000	FW	4858.00	0	5.84
F103	1	06	1	MR RED PITCH LINK AXIAL FORCE	LB	6715.46	0.000000	FW	3248.00	0	5.92
B112	1	07	320	MR RED YOKE BM BEND STA 6	IN LB	72635.0	-41158.0	FO	13971.0	0	5.91
B115	1	08	1	MR RED YOKE CH BEND STA 11.5	IN LB	286478.	0.000000	FB	275729.	0	5.91
B120	1	09	320	MR RED BLADE BM BEND STA 60.	IN LB	62068.6	-23126.0	FW	29868.0	0	5.89
B122	1	10	320	MR RED BLADE BM BEND STA 132	IN LB	38584.1	-11098.0	FW	18567.0	0	5.89
B126	1	11	320	MR RED BLADE BM BEND STA 81.5	IN LB	48883.1	-19725.0	FW	23523.0	0	5.89
F105	1	12	1	MR RED DRAG BRACE AXIAL FORCE	LB	30242.6	0.000000	FW	14553.0	0	5.89
B123	1	13	1	MR RED BLADE CH BEND STA 132	IN LB	277973.	0.000000	FW	133763.	0	5.89
B114	1	14	509	MR RED YOKE BM BEND STA 11.5	IN LB	61151.0	-38531.0	FO	11782.0	0	5.92
M150	1	15	1	MR RED BLADE TORSION STA 81.5	IN LB	33167.5	0.000000	FB	31815.0	0	5.89
M207	1	16	1	TR MAST TORQUE	IN LB	8299.47	0.000000	FW	3987.00	0	5.88
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
A321	2	07	515	90 DEG G.B. VERT VIBR STA 518	G	23.8440	1.00000	FO	4.56300	0	5.88
A306	2	08	320	NOSE LAT VIBRATION STA 46	G	3.11889	0.000000	FW	1.48300	0	5.82
A304	2	09	1	GUNNER LAT VIBRATION STA 100	G	4.95734	0.000000	FO	0.939000	0	5.82
A307	2	10	1	AFT FUS LAT VIBRATION STA 249	G	5.11928	0.000000	FO	0.993000	0	5.96
A311	2	11	320	UPPER FIN LAT VIBR STA 521	G	56.1604	0.000000	FY	5.35600	0	5.88
A600	2	12	515	LT WING VERT VIBRATION STA 195	G	10.1350	1.00000	FY	0.960000	0	5.84
A601	2	13	515	RT WING VERT VIBRATION STA 195	G	9.97668	1.00000	FY	0.945000	0	5.84
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
D007	3	01	1	SIDESLIP ANGLE	DEG	96.7002	0.000000	FW	45.9800	0	5.82
D008	3	02	1	ANGLE OF ATTACK	DEG	86.3740	-3.70000	FW	41.0700	0	5.82
D051	3	03	1	LT FWD PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D052	3	04	1	RT FWD PYLON VERT POS	IN	0.562959	0.000000	FO	0.107000	0	5.84

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
D053	3	05	1	LT AFT PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D054	3	06	1	RT AFT PYLON VERT POS	IN	0.543492	0.000000	FO	0.103300	0	5.84
A315	3	07	320	NOSE VERT VIBRATION STA 46	G	3.23035	1.00000	FW	1.53600	0	5.82
A020	3	08	320	GUNNER VERT VIBRATION STA 100	G	2.79501	1.00000	FW	1.32900	0	5.82
A019	3	09	1	PILOT VERT VIBRATION STA 146	G	5.58421	1.00000	FO	1.08500	0	5.97
A316	3	10	1	AFT FUS VERT VIBRATION STA 249	G	4.69139	1.00000	FO	0.910000	0	5.96
A317	3	11	515	T/B JCT VERT VIBRATION STA 297	G	10.2550	1.00000	FY	0.988000	0	5.94
A318	3	12	515	T/B @ ELEV VERT VIBR STA 400	G	15.6524	1.00000	FY	1.50800	0	5.94
R511	3	13	1	ENGINE (N2)	RPM	6184.61	8725.29	ZA	93.8000	0	1.00
P002	3	14	1	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
P030	3	15	533	STATIC PRESSURE-BOOM SYSTEM	PSIA	6.03798	14.7800	FW	2.87100	0	5.82
T004	3	16	320	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
D010	4	01	1	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	4	02	1	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
D011	4	03	1	YAW ATTITUDE	DEG	207.871	0.000000	FO	39.7800	0	5.88
V013	4	04	1	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
V012	4	05	1	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	4	06	1	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A319	4	07	515	T/B LOAD PT VERT VIBR STA 485	G	10.6533	1.00000	FY	1.01600	0	5.88
A320	4	08	320	FIN LOAD PT VERT VIBR STA 521	G	52.4695	1.00000	FY	5.00400	0	5.88
A302	4	09	1	PILOT LAT VIBRATION STA 146	G	5.23423	0.000000	FO	1.01700	0	5.97
A308	4	10	1	T/B JCT LAT VIBRATION STA 297	G	4.97099	0.000000	FO	0.961000	0	5.94
A309	4	11	320	T/B @ ELEV LAT VIBR STA 400	G	13.3378	0.000000	FY	1.28500	0	5.94
A310	4	12	320	T/B LOAD PT LAT VIBR STA 485	G	10.9259	0.000000	FY	1.04200	0	5.88
B121	4	14	500	MR RED BLADE CH BEND STA 60	IN LB	313812.	0.000000	FW	150753.	0	5.88
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	533	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7800	FO	2.60300	0	5.92
P158	6	08	533	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7800	FO	2.64100	0	5.92
P159	6	09	533	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7800	FW	2.43300	0	5.92
P160	6	10	533	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7800	FB	2.64800	0	5.92
P161	6	11	533	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7800	FB	2.00100	0	5.92
P162	6	12	533	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7800	FB	3.31600	0	5.92
P163	6	13	533	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7800	FB	2.13400	0	5.92
P164	6	14	533	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7800	FO	2.97800	0	5.92
P165	6	15	533	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7800	FO	2.92500	0	5.92
P166	6	16	533	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7800	FO	2.49400	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V167	7	01	515	HWA SEGMENT 7 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V168	7	02	515	HWA SEGMENT 8 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V169	7	03	515	HWA SEGMENT 9 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V170	7	04	515	HWA SEGMENT 10 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V171	7	05	515	HWA SEGMENT 1 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V172	7	06	515	HWA SEGMENT 2 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P173	7	07	533	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7800	FW	2.96600	0	5.92
P174	7	08	533	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7800	FW	2.76100	0	5.92
P175	7	09	533	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7800	FW	2.44300	0	5.92
P176	7	10	533	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7800	FW	4.22500	0	5.92
P177	7	11	533	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7800	FW	2.63200	0	5.92
P178	7	12	533	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7800	FW	1.92100	0	5.92
P179	7	13	533	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7800	FW	2.06200	0	5.92
P180	7	14	533	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7800	FW	2.37300	0	5.93
P181	7	15	533	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7800	FD	2.21100	0	5.93
P182	7	16	533	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7800	FD	2.72300	0	5.93
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	533	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7800	FW	2.61400	0	5.92
P188	8	08	533	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7800	FD	2.79400	0	5.92
P189	8	09	533	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7800	FD	2.66600	0	5.92
P190	8	10	533	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7800	FW	2.60500	0	5.92
P191	8	11	533	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7800	FW	2.52700	0	5.92
P192	8	12	533	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7800	FW	2.85300	0	5.92
P193	8	13	533	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7800	FW	2.94600	0	5.92
P194	8	14	533	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7800	FD	2.34200	0	5.92
P195	8	15	533	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7800	FD	2.76800	0	5.92
P196	8	16	533	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7800	FW	2.91800	0	5.92
V800	9	01	515	HWA SEGMENT 7 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V801	9	02	515	HWA SEGMENT 8 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V802	9	03	515	HWA SEGMENT 9 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V803	9	04	515	HWA SEGMENT 10 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V804	9	05	515	HWA SEGMENT 11 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V805	9	06	515	HWA SEGMENT 12 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P806	9	07	533	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7800	FW	3.00400	0	5.93
P807	9	08	533	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7800	FW	2.72500	0	5.93
P808	9	09	533	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7800	FW	2.73300	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P809	9	10	533	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7800	FW	2.92100	0	5.92
P810	9	11	533	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7800	FW	2.20100	0	5.92
P811	9	12	533	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7800	FW	2.60600	0	5.92
P812	9	13	533	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7800	FW	2.85700	0	5.92
P813	9	14	533	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7800	FW	2.45100	0	5.93
P814	9	15	533	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7800	FW	2.89000	0	5.93
P815	9	16	533	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7800	FW	2.57900	0	5.93
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	533	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7800	FW	1.95500	0	5.92
P823	10	08	533	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7800	FW	1.42900	0	5.92
P824	10	09	533	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7800	FW	2.79900	0	5.92
P825	10	10	533	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7800	FW	2.75400	0	5.92
P826	10	11	533	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7800	FW	2.06800	0	5.92
P827	10	12	533	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7800	FW	2.85300	0	5.92
P828	10	13	533	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7800	FO	3.00100	0	5.92
P829	10	14	533	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7800	FW	2.82900	0	5.93
P830	10	15	533	ABS PRESS 14 WHITE STA 228	PSIA	8.26959	14.7800	FO	1.59600	0	5.93
P831	10	16	533	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7800	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	533	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7800	FO	2.69600	0	5.88
P837	11	08	533	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7800	FY	2.24500	0	5.88
P838	11	09	533	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7800	FO	2.54800	0	5.88
P839	11	10	533	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7800	FO	2.53300	0	5.88
P840	11	11	533	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7800	FO	2.89800	0	5.88
P841	11	12	533	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7800	FW	2.89100	0	5.88
P842	11	13	533	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7800	FW	2.90400	0	5.88
P843	11	14	533	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7800	FW	2.81100	0	5.88
P844	11	15	533	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7800	FO	2.37800	0	5.88
P845	11	16	533	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7800	FO	2.68600	0	5.88
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	533	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7800	FW	2.85000	0	5.93
P853	12	08	533	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7800	FW	2.64600	0	5.93
P854	12	09	533	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7800	FW	1.69000	0	5.93
P855	12	10	533	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7800	FW	2.71900	0	5.93
P856	12	11	533	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7800	FW	2.80400	0	5.93
P857	12	12	533	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7800	FW	3.05100	0	5.93
P858	12	13	533	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7800	FY	2.79000	0	5.93
P859	12	14	533	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7800	FO	3.02100	0	5.93
P860	12	15	533	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7800	FO	1.76300	0	5.93
P861	12	16	533	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7800	FO	1.62400	0	5.93
R106	13	FM	522	MR AZIMUTH (MAG)	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	533	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7800	FO	2.44200	0	5.93
P869	15	08	533	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7800	FO	2.77000	0	5.93
P870	15	09	533	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7800	FW	1.69000	0	5.93
P871	15	10	533	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7800	FW	1.90100	0	5.93
P872	15	11	533	ABS PRESS 20 WHITE STA 198	PSIA	2.74110	14.7800	FW	1.32800	0	5.93
P873	15	12	533	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7800	FW	2.16800	0	5.93
P874	15	13	533	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7800	FW	2.29800	0	5.93
P875	15	14	533	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7800	FW	2.62800	0	5.93
P876	15	15	533	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7800	FW	1.82300	0	5.93
P877	15	16	533	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7800	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PAPA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	533	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7800	FW	1.69700	0	5.93
P885	16	08	533	ABS PRESS 24 WHITE STA 198	PSIA	3.58324	14.7800	FW	1.73600	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	533	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7800	FW	1.83900	0	5.93
P892	16	15	533	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7800	FW	2.74900	0	5.93
P893	16	16	533	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7800	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	533	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7800	FW	2.67800	0	5.92
P908	17	15	533	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7800	FO	2.61900	0	5.92
P909	17	16	533	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7800	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	533	ABS PPESS 3 WHITE STA 252	PSIA	12.0925	14.7800	FO	2.32200	0	5.90
P920	18	15	533	ABS PPESS 4 WHITE STA 252	PSIA	13.7225	14.7800	FO	2.63500	0	5.90
P921	18	16	533	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7800	FO	2.68800	0	5.90

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88
B131	19	12	472	MR RED BLADE CH BEND STA 155.8	IN LB	125323.	0.000000	FB	120008.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FB	104268.	0	5.88
P926	19	14	533	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7800	FD	2.53200	0	5.90
P927	19	15	533	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7800	FD	2.56900	0	5.90
P928	19	16	533	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7800	FD	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FB	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	533	ABS PRESS 9 WHITE STA 252	PSIA	5.87189	14.7800	FW	2.84000	0	5.92
P942	20	15	533	ABS PRESS 10 WHITE STA 252	PSIA	5.26816	14.7800	FW	2.54800	0	5.92
P943	20	16	533	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7800	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1G		110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263 G		43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60 G		13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5 G		11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	533	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7800	FW	2.58400	0	5.92
P958	21	15	533	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7800	FW	2.20500	0	5.92
P959	21	16	533	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7800	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-O RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103 G		22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132 G		23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8G		22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8G		22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2G		21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263 G		21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	533	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7800	FO	2.54800	0	5.91
P974	22	15	533	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7800	FO	2.62100	0	5.91
P975	22	16	533	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7800	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	533	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7800	FO	2.50600	0	5.91
P990	23	15	533	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7800	FO	1.98200	0	5.91
P991	23	16	533	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7800	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	1	BL BUTTON 5-O RED STA 198	PSI	5.51424	0.000000	FW	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88
P737	24	13	1	BL BUTTON 3-O RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	533	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7800	FW	2.57900	0	5.90
P739	24	15	533	ABS PRESS 22 WHITE STA 252	PSIA	4.21346	14.7800	FW	2.03100	0	5.90
P740	24	16	533	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7800	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-O RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-O RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-O RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-O RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-O RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-O RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-O RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	533	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7800	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-O RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-O RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-O RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-O RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-O RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-O RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-O RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-O RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
R018	27	FM	1	MR AZIMUTH	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

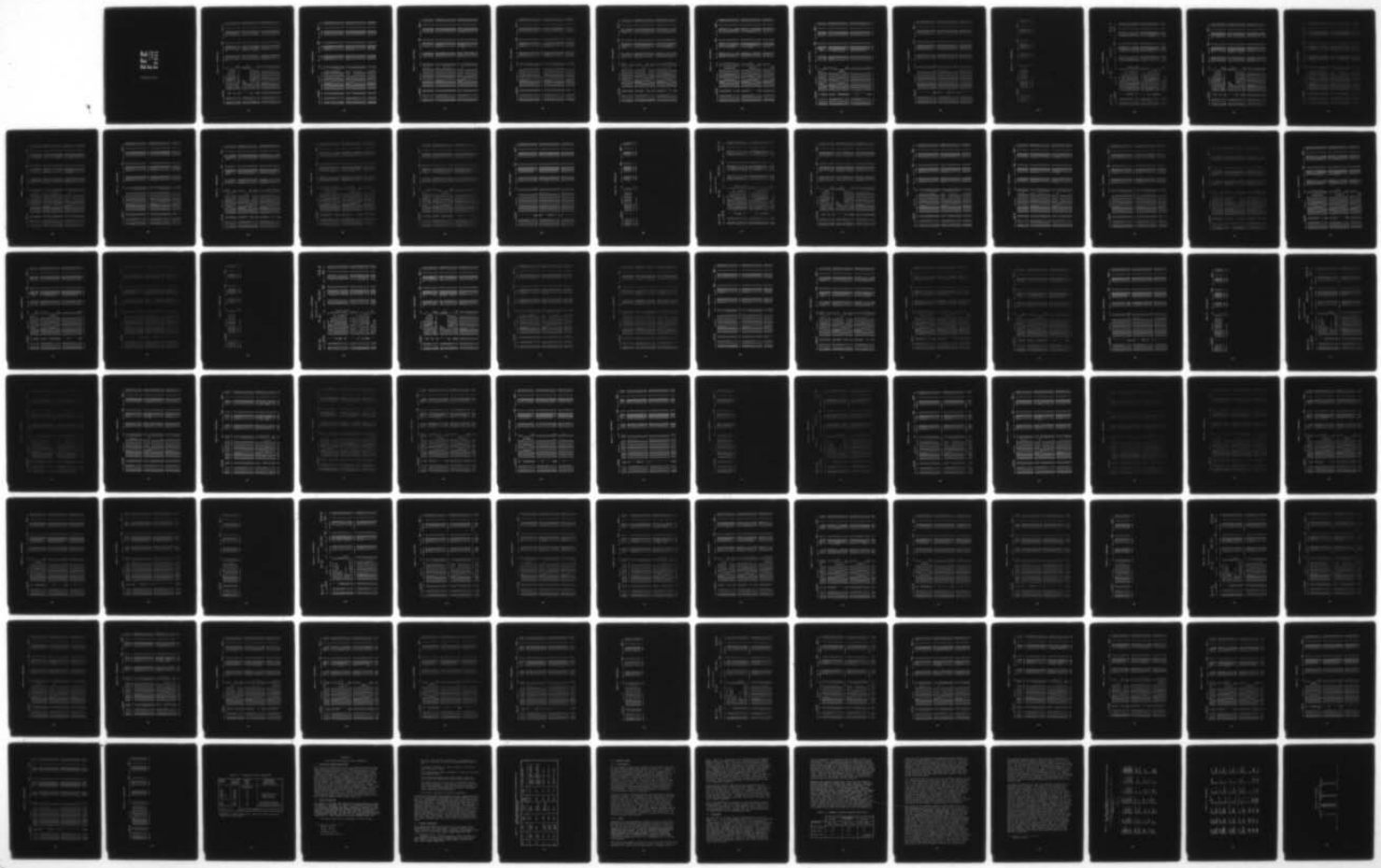
PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BF FIRST REC 552
FIRST FLT 32-A S/N 20391 DATE 11-13-75 LAST REC 573

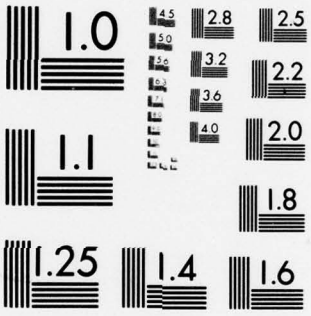
ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
F050	1	01	1	LIFT LINK AXIAL FORCE	LB	23126.1	-1407.00	FW	11034.0	0	5.84
A005	1	02	1	C.G. LOAD FACTOR	G	2.36626	1.00000	FW	1.12900	0	5.84
F102	1	03	1	COLLECTIVE BOOST TUBE A.F.	LB	9540.49	0.000000	FW	4552.00	0	5.84
F101	1	04	1	LAT CYCLIC BOOST TUBE A.F.	LB	9620.14	0.000000	FW	4590.00	0	5.84
F100	1	05	1	F/A CYCLIC BOOST TUBE A.F.	LB	10181.8	0.000000	FW	4858.00	0	5.84
F103	1	06	1	MR RED PITCH LINK AXIAL FORCE	LB	6715.46	0.000000	FW	3248.00	0	5.92
B112	1	07	320	MR RED YOKE BM BEND STA 6	IN LB	72635.0	-41158.0	FO	13971.0	0	5.91
B115	1	08	1	MR RED YOKE CH BEND STA 11.5	IN LB	286478.	0.000000	FB	275729.	0	5.91
B120	1	09	320	MR RED BLADE BM BEND STA 60	IN LB	62068.6	-23126.0	FW	29868.0	0	5.89
B122	1	10	320	MR RED BLADE BM BEND STA 132	IN LB	38584.1	-11098.0	FW	18567.0	0	5.89
B126	1	11	320	MR RED BLADE BM BEND STA 81.5	IN LB	48883.1	-19725.0	FW	23523.0	0	5.89
F105	1	12	1	MR RED DRAG BRACE AXIAL FORCE	LB	30242.6	0.000000	FW	14553.0	0	5.89
B123	1	13	1	MR RED BLADE CH BEND STA 132	IN LB	277973.	0.000000	FW	133763.	0	5.89
B114	1	14	509	MR RED YOKE BM BEND STA 11.5	IN LB	61151.0	-38531.0	FO	11782.0	0	5.92
M150	1	15	1	MR RED BLADE TORSION STA 81.5	IN LB	33167.5	0.000000	FB	31815.0	0	5.89
M207	1	16	1	TR MAST TORQUE	IN LB	8299.47	0.000000	FW	3987.00	0	5.88
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
A321	2	07	515	90 DEG G.B. VERT VIBR STA 518	G	23.8440	1.00000	FO	4.56300	0	5.88
A306	2	08	320	NOSE LAT VIBRATION STA 46	G	3.11889	0.000000	FW	1.48300	0	5.82
A304	2	09	1	GUNNER LAT VIBRATION STA 100	G	4.95734	0.000000	FO	0.939000	0	5.82
A307	2	10	1	AFT FUS LAT VIBRATION STA 249	G	5.11928	0.000000	FO	0.993000	0	5.96
A311	2	11	320	UPPER FIN LAT VIBR STA 521	G	56.1604	0.000000	FY	5.35600	0	5.88
A600	2	12	515	LT WING VERT VIBRATION STA 195	G	10.1350	1.00000	FY	0.960000	0	5.84
A601	2	13	515	RT WING VERT VIBRATION STA 195	G	9.97668	1.00000	FY	0.945000	0	5.84
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
D007	3	01	1	SIDESLIP ANGLE	DEG	96.7002	0.000000	FW	45.9800	0	5.82
D008	3	02	1	ANGLE OF ATTACK	DEG	86.3740	-3.70000	FW	41.0700	0	5.82
D051	3	03	1	LT FWD PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D052	3	04	1	RT FWD PYLON VERT POS	IN	0.562959	0.000000	FO	0.107000	0	5.84

AD-A036 910 AH-1G HELICOPTER AERODYNAMIC AND STRUCTURAL LOADS SURVEY(U) BELL HELICOPTER TEXTRON FORT WORTH TEX
G A SHOCKEY ET AL. FEB 77 699-099-017 USAAMRDL-TR-76-39

UNCLASSIFIED DAAJ02-73-C-0105 F/G 1/1 NL

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
D053	3	05	1	LT AFT PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D054	3	06	1	RT AFT PYLON VERT POS	IN	0.543492	0.000000	FO	0.103300	0	5.84
A315	3	07	320	NOSE VERT VIBRATION STA 46	G	3.23035	1.00000	FW	1.53600	0	5.82
A020	3	08	320	GUNNER VERT VIBRATION STA 100	G	2.79501	1.00000	FW	1.32900	0	5.82
A019	3	09	1	PILOT VERT VIBRATION STA 146	G	5.58421	1.00000	FO	1.08500	0	5.97
A316	3	10	1	AFT FUS VERT VIBRATION STA 249	G	4.69139	1.00000	FO	0.910000	0	5.96
A317	3	11	515	T/B JCT VERT VIBRATION STA 297	G	10.2550	1.00000	FY	0.988000	0	5.94
A318	3	12	515	T/B @ ELEV VERT VIBR STA 400	G	15.6524	1.00000	FY	1.50800	0	5.94
R511	3	13	1	ENGINE (N2)	RPM	6184.61	8725.29	ZA	93.8000	0	1.00
P002	3	14	1	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
P030	3	15	552	STATIC PRESSURE-BOOM SYSTEM	PSIA	6.03798	14.7600	FW	2.87100	0	5.82
T004	3	16	320	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
D010	4	01	1	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	4	02	1	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
D011	4	03	1	YAW ATTITUDE	DEG	207.871	0.000000	FO	39.7800	0	5.88
V013	4	04	1	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
V012	4	05	1	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	4	06	1	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A319	4	07	515	T/B LOAD PT VERT VIBR STA 485	G	10.6533	1.00000	FY	1.01600	0	5.88
A320	4	08	320	FIN LOAD PT VERT VIBR STA 521	G	52.4695	1.00000	FY	5.00400	0	5.88
A302	4	09	1	PILOT LAT VIBRATION STA 146	G	5.23423	0.000000	FO	1.01700	0	5.97
A308	4	10	1	T/B JCT LAT VIBRATION STA 297	G	4.97099	0.000000	FO	0.961000	0	5.94
A309	4	11	320	T/B @ ELEV LAT VIBR STA 400	G	13.3378	0.000000	FY	1.28500	0	5.94
A310	4	12	320	T/B LOAD PT LAT VIBR STA 485	G	10.9259	0.000000	FY	1.04200	0	5.88
B121	4	14	500	MR RED BLADE CH BEND STA 60	IN LB	313812.	0.000000	FW	150753.	0	5.88
V017	4	16	552	NONESSENTIAL BUSS VOLTAGE	VOLTS	24.1176	27.0000	FG	1.17400	0	6.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	552	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7600	FO	2.60300	0	5.92
P158	6	08	552	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7600	FO	2.64100	0	5.92
P159	6	09	552	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7600	FW	2.43300	0	5.92
P160	6	10	552	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7600	FB	2.64800	0	5.92
P161	6	11	552	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7600	FB	2.00100	0	5.92
P162	6	12	552	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7600	FB	3.31600	0	5.92
P163	6	13	552	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7600	FB	2.13400	0	5.92
P164	6	14	552	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7600	FO	2.97800	0	5.92
P165	6	15	552	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7600	FO	2.92500	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P166	6	16	552	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7600	FO	2.49400	0	5.92
V167	7	01	515	HWA SEGMENT 7 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V168	7	02	515	HWA SEGMENT 8 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V169	7	03	515	HWA SEGMENT 9 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V170	7	04	515	HWA SEGMENT 10 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V171	7	05	515	HWA SEGMENT 1 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V172	7	06	515	HWA SEGMENT 2 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P173	7	07	552	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7600	FW	2.96600	0	5.92
P174	7	08	552	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7600	FW	2.76100	0	5.92
P175	7	09	552	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7600	FW	2.44300	0	5.92
P176	7	10	552	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7600	FW	4.22500	0	5.92
P177	7	11	552	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7600	FW	2.63200	0	5.92
P178	7	12	552	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7600	FW	1.92100	0	5.92
P179	7	13	552	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7600	FW	2.06200	0	5.92
P180	7	14	552	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7600	FW	2.37300	0	5.93
P181	7	15	552	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7600	FO	2.21100	0	5.93
P182	7	16	552	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7600	FO	2.72300	0	5.93
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	552	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7600	FW	2.61400	0	5.92
P188	8	08	552	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7600	FO	2.79400	0	5.92
P189	8	09	552	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7600	FO	2.66600	0	5.92
P190	8	10	552	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7600	FW	2.60500	0	5.92
P191	8	11	552	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7600	FW	2.52700	0	5.92
P192	8	12	552	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7600	FW	2.85300	0	5.92
P193	8	13	552	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7600	FW	2.94600	0	5.92
P194	8	14	552	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7600	FO	2.34200	0	5.92
P195	8	15	552	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7600	FO	2.76800	0	5.92
P196	8	16	552	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7600	FW	2.91800	0	5.92
V800	9	01	515	HWA SEGMENT 7 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V801	9	02	515	HWA SEGMENT 8 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V802	9	03	515	HWA SEGMENT 9 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V803	9	04	515	HWA SEGMENT 10 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V804	9	05	515	HWA SEGMENT 11 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V805	9	06	515	HWA SEGMENT 12 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P806	9	07	552	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7600	FW	3.00400	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P807	9	08	552	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7600	FW	2.72500	0	5.93
P808	9	09	552	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7600	FW	2.73300	0	5.93
P809	9	10	552	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7600	FW	2.92100	0	5.92
P810	9	11	552	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7600	FW	2.20100	0	5.92
P811	9	12	552	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7600	FW	2.60600	0	5.92
P812	9	13	552	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7600	FW	2.85700	0	5.92
P813	9	14	552	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7600	FW	2.45100	0	5.93
P814	9	15	552	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7600	FW	2.89000	0	5.93
P815	9	16	552	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7600	FW	2.57900	0	5.93
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	552	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7600	FW	1.95500	0	5.92
P823	10	08	552	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7600	FW	1.42900	0	5.92
P824	10	09	552	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7600	FW	2.79900	0	5.92
P825	10	10	552	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7600	FW	2.75400	0	5.92
P826	10	11	552	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7600	FW	2.06800	0	5.92
P827	10	12	552	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7600	FW	2.85300	0	5.92
P828	10	13	552	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7600	FO	3.00100	0	5.92
P829	10	14	552	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7600	FW	2.82900	0	5.93
P830	10	15	552	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7600	FO	1.90400	0	5.93
P831	10	16	552	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7600	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	552	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7600	FO	2.69600	0	5.88
P837	11	08	552	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7600	FY	2.24500	0	5.88
P838	11	09	552	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7600	FO	2.54800	0	5.88
P839	11	10	552	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7600	FO	2.53300	0	5.88
P840	11	11	552	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7600	FO	2.89800	0	5.88
P841	11	12	552	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7600	FW	2.89100	0	5.88
P842	11	13	552	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7600	FW	2.90400	0	5.88
P843	11	14	552	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7600	FW	2.81100	0	5.88
P844	11	15	552	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7600	FO	2.37800	0	5.88
P845	11	16	552	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7600	FO	2.68600	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	552	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7600	FW	2.85000	0	5.93
P853	12	08	552	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7600	FW	2.64600	0	5.93
P854	12	09	552	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7600	FW	1.69000	0	5.93
P855	12	10	552	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7600	FW	2.71900	0	5.93
P856	12	11	552	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7600	FW	2.80400	0	5.93
P857	12	12	552	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7600	FW	3.05100	0	5.93
P858	12	13	552	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7600	FY	2.79000	0	5.93
P859	12	14	552	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7600	FO	3.02100	0	5.93
P860	12	15	552	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7600	FO	1.76300	0	5.93
P861	12	16	552	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7600	FO	1.62400	0	5.93
R106	13	FM	522	MR AZIMUTH (MAG)	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	552	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7600	FO	2.44200	0	5.93
P869	15	08	552	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7600	FO	2.77000	0	5.93
P870	15	09	552	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7600	FW	1.69000	0	5.93
P871	15	10	552	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7600	FW	1.90100	0	5.93
P872	15	11	552	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7600	FW	1.39500	0	5.93
P873	15	12	552	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7600	FW	2.16800	0	5.93
P874	15	13	552	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7600	FW	2.29800	0	5.93
P875	15	14	552	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7600	FW	2.62800	0	5.93
P876	15	15	552	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7600	FW	1.82300	0	5.93
P877	15	16	552	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7600	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	552	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7600	FW	1.69700	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P885	16	08	552	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7600	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FD	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FD	2.62900	0	5.92
P891	16	14	552	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7600	FW	1.83900	0	5.93
P892	16	15	552	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7600	FW	2.74900	0	5.93
P893	16	16	552	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7600	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FD	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FD	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	552	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7600	FW	2.67800	0	5.92
P908	17	15	552	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7600	FD	2.61900	0	5.92
P909	17	16	552	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7600	FD	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FD	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	552	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7600	FD	2.32200	0	5.90
P920	18	15	552	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7600	FD	2.46400	0	5.90
P921	18	16	552	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7600	FD	2.68800	0	5.90

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	672	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7800	FO	2.53200	0	5.90
P927	19	15	672	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7800	FO	2.56900	0	5.90
P928	19	16	672	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7800	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	672	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7800	FW	2.46400	0	5.92
P942	20	15	672	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7800	FW	2.32500	0	5.92
P943	20	16	672	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7800	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	552	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7600	FW	2.58400	0	5.92
P958	21	15	552	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7600	FW	2.20500	0	5.92
P959	21	16	552	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7600	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-O RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	552	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7600	FO	2.54800	0	5.91
P974	22	15	552	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7600	FO	2.62100	0	5.91
P975	22	16	552	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7600	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	552	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7600	FO	2.50600	0	5.91
P990	23	15	552	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7600	FO	1.98200	0	5.91
P991	23	16	552	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7600	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	1	BL BUTTON 5-O RED STA 198	PSI	5.51424	0.000000	FW	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88
P737	24	13	1	BL BUTTON 3-O RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	552	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7600	FW	2.57900	0	5.90
P739	24	15	552	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7600	FW	1.87300	0	5.90
P740	24	16	552	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7600	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-O RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-O RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-O RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-O RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-O RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-O RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-O RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	552	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7600	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-O RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-O RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-O RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-O RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-O RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-O RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-O RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-O RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
P818	27	FM	1	MR AZIMUTH	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
P829	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BH FIRST REC 607
FIRST FLT 35-A S/N 20391 DATE 11-26-75 LAST REC 631

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
F050	1	01	1	LIFT LINK AXIAL FORCE	LB	23126.1	-1407.00	FW	11034.0	0	5.84
A005	1	02	1	C.G. LOAD FACTOR	G	2.36626	1.00000	FW	1.12900	0	5.84
F102	1	03	1	COLLECTIVE BOOST TUBE A.F.	LB	9540.49	0.000000	FW	4552.00	0	5.84
F101	1	04	1	LAT CYCLIC BOOST TUBE A.F.	LB	9620.14	0.000000	FW	4590.00	0	5.84
F100	1	05	1	F/A CYCLIC BOOST TUBE A.F.	LB	10181.8	0.000000	FW	4858.00	0	5.84
F103	1	06	1	MR RED PITCH LINK AXIAL FORCE	LB	6715.46	0.000000	FW	3248.00	0	5.92
B112	1	07	320	MR RED YOKE BM BEND STA 6	IN LB	72635.0	-41158.0	FO	13971.0	0	5.91
B115	1	08	1	MR RED YOKE CH BEND STA 11.5	IN LB	286478.	0.000000	FB	275729.	0	5.91
B120	1	09	320	MR RED BLADE BM BEND STA 60	IN LB	62068.6	-23126.0	FW	29868.0	0	5.89
B122	1	10	320	MR RED BLADE BM BEND STA 132	IN LB	38584.1	-11098.0	FW	18567.0	0	5.89
B126	1	11	320	MR RED BLADE BM BEND STA 81.5	IN LB	48883.1	-19725.0	FW	23523.0	0	5.89
F105	1	12	1	MR RED DRAG BRACE AXIAL FORCE	LB	30242.6	0.000000	FW	14553.0	0	5.89
B123	1	13	1	MR RED BLADE CH BEND STA 132	IN LB	277973.	0.000000	FW	133763.	0	5.89
B114	1	14	509	MR RED YOKE BM BEND STA 11.5	IN LB	61151.0	-38531.0	FO	11782.0	0	5.92
M150	1	15	1	MR RED BLADE TORSION STA 81.5	IN LB	33167.5	0.000000	FB	31815.0	0	5.89
M207	1	16	1	TR MAST TORQUE	IN LB	8299.47	0.000000	FW	3987.00	0	5.88
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
A321	2	07	515	90 DEG G.B. VERT VIBR STA 518	G	23.8440	1.00000	FO	4.56300	0	5.88
A306	2	08	320	NOSE LAT VIBRATION STA 46	G	3.11889	0.000000	FW	1.48300	0	5.82
A304	2	09	1	GUNNER LAT VIBRATION STA 100	G	4.95734	0.000000	FO	0.939000	0	5.82
A307	2	10	1	AFT FUS LAT VIBRATION STA 249	G	5.11928	0.000000	FO	0.993000	0	5.96
A311	2	11	320	UPPER FIN LAT VIBR STA 521	G	56.1604	0.000000	FY	5.35600	0	5.88
A600	2	12	515	LT WING VERT VIBRATION STA 195	G	10.1350	1.00000	FY	0.960000	0	5.84
A601	2	13	515	RT WING VERT VIBRATION STA 195	G	9.97668	1.00000	FY	0.945000	0	5.84
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
D007	3	01	1	SIDESLIP ANGLE	DEG	96.7002	0.000000	FW	45.9800	0	5.82
D008	3	02	1	ANGLE OF ATTACK	DEG	86.3740	-3.70000	FW	41.0700	0	5.82
D051	3	03	1	LT FWD PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D052	3	04	1	RT FWD PYLON VERT POS	IN	0.562959	0.000000	FO	0.107000	0	5.84

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
D053	3	05	1	LT AFT PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D054	3	06	1	RT AFT PYLON VERT POS	IN	0.543492	0.000000	FO	0.103300	0	5.84
A315	3	07	320	NOSE VERT VIBRATION STA 46	G	3.23035	1.00000	FW	1.53600	0	5.82
A020	3	08	320	GUNNER VERT VIBRATION STA 100	G	2.79501	1.00000	FW	1.32900	0	5.82
A019	3	09	1	PILOT VERT VIBRATION STA 146	G	5.58421	1.00000	FO	1.08500	0	5.97
A316	3	10	1	AFT FUS VERT VIBRATION STA 249	G	4.69139	1.00000	FO	0.910000	0	5.96
A317	3	11	515	T/B JCT VERT VIBRATION STA 297	G	10.2550	1.00000	FY	0.988000	0	5.94
A318	3	12	515	T/B @ ELEV VERT VIBR STA 400	G	15.6524	1.00000	FY	1.50800	0	5.94
R511	3	13	1	ENGINE (N2)	RPM	6184.61	8725.29	ZA	93.8000	0	1.00
P002	3	14	1	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
P030	3	15	607	STATIC PRESSURE-BOOM SYSTEM	PSIA	6.03798	14.7800	FW	2.87100	0	5.82
T004	3	16	320	OAT	DEG C	71.1496	21.0300	FF	13.9400	0	6.02
D010	4	01	1	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	4	02	1	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
D011	4	03	1	YAW ATTITUDE	DEG	207.871	0.000000	FO	39.7800	0	5.88
V013	4	04	1	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
V012	4	05	1	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	4	06	1	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A319	4	07	515	T/B LOAD PT VERT VIBR STA 485	G	10.6533	1.00000	FY	1.01600	0	5.88
A320	4	08	320	FIN LOAD PT VERT VIBR STA 521	G	52.4695	1.00000	FY	5.00400	0	5.88
A302	4	09	1	PILOT LAT VIBRATION STA 146	G	5.23423	0.000000	FO	1.01700	0	5.97
A308	4	10	1	T/B JCT LAT VIBRATION STA 297	G	4.97099	0.000000	FO	0.961000	0	5.94
A309	4	11	320	T/B @ ELEV LAT VIBR STA 400	G	13.3378	0.000000	FY	1.28500	0	5.94
A310	4	12	320	T/B LOAD PT LAT VIBR STA 485	G	10.9259	0.000000	FY	1.04200	0	5.88
B121	4	14	500	MR RED BLADE CH BEND STA 60	IN LB	313812.	0.000000	FW	150753.	0	5.88
V017	4	16	552	NONESSENTIAL BUSS VOLTAGE	VOLTS	24.1176	27.0000	FG	1.17400	0	6.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	607	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7800	FO	2.60300	0	5.92
P158	6	08	607	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7800	FO	2.64100	0	5.92
P159	6	09	607	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7800	FW	2.43300	0	5.92
P160	6	10	607	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7800	FB	2.64800	0	5.92
P161	6	11	607	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7800	FB	2.00100	0	5.92
P162	6	12	607	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7800	FB	3.31600	0	5.92
P163	6	13	607	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7800	FB	2.13400	0	5.92
P164	6	14	607	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7800	FO	2.97800	0	5.92
P165	6	15	607	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7800	FO	2.92500	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P166	6	16	607	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7800	FO	2.40400	0	5.93
V167	7	01	515	HWA SEGMENT 7 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V168	7	02	515	HWA SEGMENT 8 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V169	7	03	515	HWA SEGMENT 9 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V170	7	04	515	HWA SEGMENT 10 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V171	7	05	515	HWA SEGMENT 1 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V172	7	06	515	HWA SEGMENT 2 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P173	7	07	607	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7800	FW	2.96600	0	5.92
P174	7	08	607	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7800	FW	2.76100	0	5.92
P175	7	09	607	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7800	FW	2.44300	0	5.92
P176	7	10	607	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7800	FW	4.22500	0	5.92
P177	7	11	607	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7800	FW	2.63200	0	5.92
P178	7	12	607	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7800	FW	1.92100	0	5.92
P179	7	13	607	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7800	FW	2.06200	0	5.92
P180	7	14	607	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7800	FW	2.37300	0	5.93
P181	7	15	607	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7800	FO	2.21100	0	5.93
P182	7	16	607	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7800	FO	2.72300	0	5.93
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	607	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7800	FW	2.61400	0	5.92
P188	8	08	607	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7800	FO	2.79400	0	5.92
P189	8	09	607	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7800	FO	2.66600	0	5.92
P190	8	10	607	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7800	FW	2.60500	0	5.92
P191	8	11	607	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7800	FW	2.52700	0	5.92
P192	8	12	607	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7800	FW	2.85300	0	5.92
P193	8	13	607	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7800	FW	2.94600	0	5.92
P194	8	14	607	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7800	FO	2.34200	0	5.92
P195	8	15	607	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7800	FO	2.76800	0	5.92
P196	8	16	607	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7800	FW	2.91800	0	5.92
V800	9	01	515	HWA SEGMENT 7 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V801	9	02	515	HWA SEGMENT 8 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V802	9	03	515	HWA SEGMENT 9 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V803	9	04	515	HWA SEGMENT 10 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V804	9	05	515	HWA SEGMENT 11 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V805	9	06	515	HWA SEGMENT 12 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P806	9	07	607	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7800	FW	3.00400	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P807	9	08	607	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7800	FW	2.72500	0	5.93
P808	9	09	607	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7800	FW	2.73300	0	5.93
P809	9	10	607	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7800	FW	2.92100	0	5.92
P810	9	11	607	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7800	FW	2.20100	0	5.92
P811	9	12	607	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7800	FW	2.60600	0	5.92
P812	9	13	607	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7800	FW	2.85700	0	5.92
P813	9	14	607	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7800	FW	2.45100	0	5.93
P814	9	15	607	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7800	FW	2.89000	0	5.93
P815	9	16	607	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7800	FW	2.57900	0	5.93
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	607	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7800	FW	1.95500	0	5.92
P823	10	08	607	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7800	FW	1.42900	0	5.92
P824	10	09	607	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7800	FW	2.79900	0	5.92
P825	10	10	607	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7800	FW	2.75400	0	5.92
P826	10	11	607	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7800	FW	2.06800	0	5.92
P827	10	12	607	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7800	FW	2.85300	0	5.92
P828	10	13	607	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7800	FO	3.00100	0	5.92
P829	10	14	607	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7800	FW	2.82900	0	5.93
P830	10	15	607	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7800	FO	1.90400	0	5.9
P831	10	16	607	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7800	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	607	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7800	FO	2.69600	0	5.88
P837	11	08	607	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7800	FY	2.24500	0	5.88
P838	11	09	607	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7800	FO	2.54800	0	5.88
P839	11	10	607	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7800	FO	2.53300	0	5.88
P840	11	11	607	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7800	FO	2.89800	0	5.88
P841	11	12	607	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7800	FW	2.89100	0	5.88
P842	11	13	607	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7800	FW	2.90400	0	5.88
P843	11	14	607	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7800	FW	2.81100	0	5.88
P844	11	15	607	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7800	FO	2.37800	0	5.88
P845	11	16	607	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7800	FO	2.68600	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	607	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7800	FW	2.85000	0	5.93
P853	12	08	607	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7800	FW	2.64600	0	5.93
P854	12	09	607	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7800	FW	1.69000	0	5.93
P855	12	10	607	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7800	FW	2.71900	0	5.93
P856	12	11	607	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7800	FW	2.80400	0	5.93
P857	12	12	607	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7800	FW	3.05100	0	5.93
P858	12	13	607	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7800	FY	2.79000	0	5.93
P859	12	14	607	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7800	FO	3.02100	0	5.93
P860	12	15	607	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7800	FO	1.76300	0	5.93
P861	12	16	607	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7800	FO	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	11/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	607	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7800	FO	2.44200	0	5.93
P869	15	08	607	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7800	FO	2.77000	0	5.93
P870	15	09	607	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7800	FW	1.69000	0	5.93
P871	15	10	607	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7800	FW	1.90100	0	5.93
P872	15	11	607	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7800	FW	1.39500	0	5.93
P873	15	12	607	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7800	FW	2.16800	0	5.93
P874	15	13	607	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7800	FW	2.29000	0	5.93
P875	15	14	607	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7800	FW	2.62800	0	5.93
P876	15	15	607	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7800	FW	1.82300	0	5.93
P877	15	16	607	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7800	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MP MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.85
B883	16	06	1	MP MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	607	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7800	FW	1.69700	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P885	16	08	607	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7800	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	607	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7800	FW	1.83900	0	5.93
P892	16	15	607	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7800	FW	2.74900	0	5.93
P893	16	16	607	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7800	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	607	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7800	FW	2.67800	0	5.92
P908	17	15	607	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7800	FO	2.61900	0	5.92
P909	17	16	607	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7800	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR PED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	607	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7800	FO	2.32200	0	5.90
P920	18	15	607	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7800	FO	2.46400	0	5.90
P921	18	16	607	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7800	FO	2.68800	0	5.90

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	607	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7800	FO	2.53200	0	5.90
P927	19	15	607	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7800	FO	2.56900	0	5.90
P928	19	16	607	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7800	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	607	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7800	FW	2.46400	0	5.92
P942	20	15	607	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7800	FW	2.32500	0	5.92
P943	20	16	607	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7800	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	607	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7800	FW	2.58400	0	5.92
P958	21	15	607	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7800	FW	2.20500	0	5.92
P959	21	16	607	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7800	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-O RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	607	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7800	FO	2.54800	0	5.91
P974	22	15	607	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7800	FO	2.62100	0	5.91
P975	22	16	607	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7800	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTION 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	607	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7800	FO	2.50600	0	5.91
P990	23	15	607	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7800	FO	1.98200	0	5.91
P991	23	16	607	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7800	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	1	BL BUTTON 5-O RED STA 198	PSI	5.51424	0.000000	FW	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88
P737	24	13	1	BL BUTTON 3-O RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	607	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7800	FW	2.57900	0	5.90
P739	24	15	607	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7800	FW	1.87300	0	5.90
P740	24	16	607	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7800	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-O RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-O RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-O RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-O RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-O RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-O RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-O RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	607	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7800	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-O RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-O RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-O RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-O RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-O RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-O RED STA 105.6	PSI	4.11555	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-O RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-O RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
R018	27	FM	1	MR AZIMUTH	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER AW FIRST REC 633
FIRST FLT 36-A S/N 20391 DATE 8-26-75 LAST REC 671

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
F050	1	01	1	LIFT LINK AXIAL FORCE	LB	23126.1	-1407.00	FW	11034.0	0	5.84
A005	1	02	1	C.G. LOAD FACTOR	G	2.36626	1.00000	FW	1.12900	0	5.84
F102	1	03	1	COLLECTIVE BOOST TUBE A.F.	LB	9540.49	0.000000	FW	4552.00	0	5.84
F101	1	04	1	LAT CYCLIC BOOST TUBE A.F.	LB	9620.14	0.000000	FW	4590.00	0	5.84
F100	1	05	1	F/A CYCLIC BOOST TUBE A.F.	LB	10181.8	0.000000	FW	4858.00	0	5.84
F103	1	06	1	MR RED PITCH LINK AXIAL FORCE	LB	6715.46	0.000000	FW	3248.00	0	5.92
B112	1	07	320	MR RED YOKE BM BEND STA 6	IN LB	72635.0	-41158.0	FO	13971.0	0	5.91
B115	1	08	1	MR RED YOKE CH BEND STA 11.5	IN LB	286478.	0.000000	FB	275729.	0	5.91
B120	1	09	320	MR RED BLADE BM BEND STA 60	IN LB	62068.6	-23126.0	FW	29868.0	0	5.89
B122	1	10	320	MR RED BLADE BM BEND STA 132	IN LB	38584.1	-11098.0	FW	18567.0	0	5.89
B126	1	11	320	MR RED BLADE BM BEND STA 81.5	IN LB	48883.1	-19725.0	FW	23523.0	0	5.89
F105	1	12	1	MR RED DRAG BRACE AXIAL FORCE	LB	30242.6	0.000000	FW	14553.0	0	5.89
B123	1	13	1	MR RED BLADE CH BEND STA 132	IN LB	277973.	0.000000	FW	133763.	0	5.89
B114	1	14	509	MR RED YOKE BM BEND STA 11.5	IN LB	61151.0	-38531.0	FO	11782.0	0	5.92
M150	1	15	1	MR RED BLADE TORSION STA 81.5	IN LB	33167.5	0.000000	FB	31815.0	0	5.89
M207	1	16	1	TR MAST TORQUE	IN LB	8299.47	0.000000	FW	3987.00	0	5.88
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
A321	2	07	515	90 DEG G.B. VERT VIBR STA 518	G	23.8440	1.00000	FO	4.56300	0	5.88
A306	2	08	320	NOSE LAT VIBRATION STA 46	G	3.11889	0.000000	FW	1.48300	0	5.82
A304	2	09	1	GUNNER LAT VIBRATION STA 100	G	4.95734	0.000000	FO	0.939000	0	5.82
A307	2	10	1	AFT FUS LAT VIBRATION STA 249	G	5.11928	0.000000	FO	0.993000	0	5.96
A311	2	11	320	UPPER FIN LAT VIBR STA 521	G	56.1604	0.000000	FY	5.35600	0	5.88
A600	2	12	515	LT WING VERT VIBRATION STA 195	G	10.1350	1.00000	FY	0.960000	0	5.84
A601	2	13	515	RT WING VERT VIBRATION STA 195	G	9.97668	1.00000	FY	0.945000	0	5.84
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
D007	3	01	1	SIDESLIP ANGLE	DEG	96.7002	0.000000	FW	45.9900	0	5.82
D008	3	02	1	ANGLE OF ATTACK	DEG	86.3740	-3.70000	FW	41.0700	0	5.82
D051	3	03	1	LT FWD PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D052	3	04	1	RT FWD PYLON VERT POS	IN	0.562959	0.000000	FO	0.107000	0	5.84

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
D053	3	05	1	LT AFT PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D054	3	06	1	RT AFT PYLON VERT POS	IN	0.543492	0.000000	FO	0.103300	0	5.84
A315	3	07	320	NOSE VERT VIBRATION STA 46	G	3.23035	1.00000	FW	1.53600	0	5.82
A020	3	08	320	GUNNER VERT VIBRATION STA 100	G	2.79501	1.00000	FW	1.32900	0	5.82
A019	3	09	1	PILOT VERT VIBRATION STA 146	G	5.58421	1.00000	FO	1.08500	0	5.97
A316	3	10	1	AFT FUS VERT VIBRATION STA 249	G	4.69139	1.00000	FO	0.910000	0	5.96
A317	3	11	515	T/B JCT VERT VIBRATION STA 297	G	10.2550	1.00000	FY	0.988000	0	5.94
A318	3	12	515	T/B @ ELEV VERT VIBR STA 400	G	15.6524	1.00000	FY	1.50800	0	5.94
R511	3	13	1	ENGINE (N2)	RPM	6184.61	8725.29	ZA	93.8000	0	1.00
P002	3	14	1	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
P030	3	15	633	STATIC PRESSURE-BOOM SYSTEM	PSIA	6.03798	14.8000	FW	2.87100	0	5.82
T004	3	16	320	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
D010	4	01	1	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	4	02	1	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
D011	4	03	1	YAW ATTITUDE	DEG	207.871	0.000000	FO	39.7800	0	5.88
V013	4	04	1	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
V012	4	05	1	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	4	06	1	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A319	4	07	515	T/B LOAD PT VERT VIBR STA 485	G	10.6533	1.00000	FY	1.01600	0	5.88
A320	4	08	320	FIN LOAD PT VERT VIBR STA 521	G	52.4695	1.00000	FY	5.00400	0	5.88
A302	4	09	1	PILOT LAT VIBRATION STA 146	G	5.23423	0.000000	FO	1.01700	0	5.97
A308	4	10	1	T/B JCT LAT VIBRATION STA 297	G	4.97099	0.000000	FO	0.961000	0	5.94
A309	4	11	320	T/B @ ELEV LAT VIBR STA 400	G	13.3378	0.000000	FY	1.28500	0	5.94
A310	4	12	320	T/B LOAD PT LAT VIBR STA 485	G	10.9259	0.000000	FY	1.04200	0	5.88
B121	4	14	500	MR RED BLADE CH BEND STA 60	IN LB	313812.	0.000000	FW	150753.	0	5.88
V017	4	16	552	NONESSENTIAL BUSS VOLTAGE	VOLTS	24.1176	27.0000	FG	1.17400	0	6.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	633	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.8000	FO	2.60300	0	5.92
P158	6	08	633	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.8000	FO	2.64100	0	5.92
P159	6	09	633	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.8000	FW	2.43300	0	5.92
P160	6	10	633	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.8000	FB	2.64800	0	5.92
P161	6	11	633	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.8000	FB	2.00100	0	5.92
P162	6	12	633	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.8000	FB	3.31600	0	5.92
P163	6	13	633	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.8000	FB	2.13400	0	5.92
P164	6	14	633	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.8000	FO	2.97800	0	5.92
P165	6	15	633	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.8000	FO	2.92500	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P166	6	16	633	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.8000	FO	2.49400	0	5.92
V167	7	01	515	HWA SEGMENT 7 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V168	7	02	515	HWA SEGMENT 8 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V169	7	03	515	HWA SEGMENT 9 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V170	7	04	515	HWA SEGMENT 10 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V171	7	05	515	HWA SEGMENT 1 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V172	7	06	515	HWA SEGMENT 2 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P173	7	07	633	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.8000	FW	2.96600	0	5.92
P174	7	08	633	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.8000	FW	2.76100	0	5.92
P175	7	09	633	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.8000	FW	2.44300	0	5.92
P176	7	10	633	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.8000	FW	4.22500	0	5.92
P177	7	11	633	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.8000	FW	2.63200	0	5.92
P178	7	12	633	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.8000	FW	1.92100	0	5.92
P179	7	13	633	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.8000	FW	2.06200	0	5.92
P180	7	14	633	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.8000	FW	2.37300	0	5.93
P181	7	15	633	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.8000	FO	2.21100	0	5.93
P182	7	16	633	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.8000	FO	2.72300	0	5.93
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	633	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.8000	FW	2.61400	0	5.92
P188	8	08	633	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.8000	FO	2.79400	0	5.92
P189	8	09	633	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.8000	FO	2.66600	0	5.92
P190	8	10	633	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.8000	FW	2.60500	0	5.92
P191	8	11	633	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.8000	FW	2.52700	0	5.92
P192	8	12	633	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.8000	FW	2.85300	0	5.92
P193	8	13	633	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.8000	FW	2.94600	0	5.92
P194	8	14	633	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.8000	FO	2.34200	0	5.92
P195	8	15	633	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.8000	FO	2.76800	0	5.92
P196	8	16	633	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.8000	FW	2.91800	0	5.92
V800	9	01	515	HWA SEGMENT 7 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V801	9	02	515	HWA SEGMENT 8 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V802	9	03	515	HWA SEGMENT 9 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V803	9	04	515	HWA SEGMENT 10 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V804	9	05	515	HWA SEGMENT 11 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V805	9	06	515	HWA SEGMENT 12 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P806	9	07	633	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.8000	FW	3.00400	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P807	9	08	633	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.8000	FW	2.72500	0	5.93
P808	9	09	633	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.8000	FW	2.73300	0	5.93
P809	9	10	633	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.8000	FW	2.92100	0	5.92
P810	9	11	633	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.8000	FW	2.20100	0	5.92
P811	9	12	633	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.8000	FW	2.60600	0	5.92
P812	9	13	633	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.8000	FW	2.85700	0	5.92
P813	9	14	633	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.8000	FW	2.45100	0	5.93
P814	9	15	633	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.8000	FW	2.89000	0	5.93
P815	9	16	633	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.8000	FW	2.57900	0	5.93
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	633	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.8000	FW	1.95500	0	5.92
P823	10	08	633	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.8000	FW	1.42900	0	5.92
P824	10	09	633	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.8000	FW	2.79900	0	5.92
P825	10	10	633	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.8000	FW	2.75400	0	5.92
P826	10	11	633	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.8000	FW	2.06800	0	5.92
P827	10	12	633	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.8000	FW	2.85300	0	5.92
P828	10	13	633	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.8000	FO	3.00100	0	5.92
P829	10	14	633	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.8000	FW	2.82900	0	5.93
P830	10	15	633	ABS PRESS 14 WHITE STA 228	PSIA	8.26959	14.8000	FO	1.59600	0	5.93
P831	10	16	633	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.8000	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	633	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.8000	FO	2.69600	0	5.88
P837	11	08	633	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.8000	FY	2.24500	0	5.88
P838	11	09	633	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.8000	FO	2.54800	0	5.88
P839	11	10	633	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.8000	FO	2.53300	0	5.88
P840	11	11	633	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.8000	FO	2.89800	0	5.88
P841	11	12	633	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.8000	FW	2.89100	0	5.88
P842	11	13	633	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.8000	FW	2.90400	0	5.88
P843	11	14	633	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.8000	FW	2.81100	0	5.88
P844	11	15	633	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.8000	FO	2.37800	0	5.88
P845	11	16	633	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.8000	FO	2.68600	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	633	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.8000	FW	2.85000	0	5.93
P853	12	08	633	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.8000	FW	2.64600	0	5.93
P854	12	09	633	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.8000	FW	1.69000	0	5.93
P855	12	10	633	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.8000	FW	2.71900	0	5.93
P856	12	11	633	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.8000	FW	2.80400	0	5.93
P857	12	12	633	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.8000	FW	3.05100	0	5.93
P858	12	13	633	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.8000	FY	2.79000	0	5.93
P859	12	14	633	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.8000	FO	3.02100	0	5.93
P860	12	15	633	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.8000	FO	1.76300	0	5.93
P861	12	16	633	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.8000	FO	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	11/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	633	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.8000	FO	2.44200	0	5.93
P869	15	08	633	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.8000	FO	2.77000	0	5.93
P870	15	09	633	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.8000	FW	1.69000	0	5.93
P871	15	10	633	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.8000	FW	1.90100	0	5.93
P872	15	11	633	ABS PRESS 20 WHITE STA 198	PSIA	2.74110	14.8000	FW	1.32800	0	5.93
P873	15	12	633	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.8000	FW	2.16800	0	5.93
P874	15	13	633	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.8000	FW	2.29800	0	5.93
P875	15	14	633	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.8000	FW	2.62800	0	5.93
P876	15	15	633	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.8000	FW	1.82300	0	5.93
P877	15	16	633	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.8000	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	633	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.8000	FW	1.69700	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P885	16	08	633	ABS PRESS 24 WHITE STA 198	PSIA	3.58324	14.8000	FW	1.73600	0	5.93
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	633	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.8000	FW	1.83900	0	5.93
P892	16	15	633	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.8000	FW	2.74900	0	5.93
P893	16	16	633	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.8000	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	1.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	1.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	633	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.8000	FW	2.67800	0	5.92
P908	17	15	633	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.8000	FO	2.61900	0	5.92
P909	17	16	633	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.8000	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	633	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.8000	FO	2.32200	0	5.90
P920	18	15	633	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.8000	FO	2.46400	0	5.90
P920	18	16	583	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	0.000000	FO	2.46400	0	5.90

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	633	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.8000	FO	2.53200	0	5.90
P927	19	15	633	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.8000	FO	2.56900	0	5.90
P928	19	16	633	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.8000	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	633	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.8000	FW	2.46400	0	5.92
P942	20	15	633	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.8000	FW	2.32500	0	5.92
P943	20	16	633	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.8000	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	633	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.8000	FW	2.58400	0	5.92
P958	21	15	633	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.8000	FW	2.20500	0	5.92
P959	21	16	633	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.8000	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-O RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	633	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.8000	FO	2.54800	0	5.91
P974	22	15	633	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.8000	FO	2.62100	0	5.91
P975	22	16	633	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.8000	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	633	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.8000	FO	2.50600	0	5.91
P990	23	15	633	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.8000	FO	1.98200	0	5.91
P991	23	16	633	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.8000	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	1	BL BUTTON 5-O RED STA 198	PSI	5.51424	0.000000	FW	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88
P737	24	13	1	BL BUTTON 3-O RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	633	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.8000	FW	2.57900	0	5.90
P739	24	15	633	ABS PRESS 22 WHITE STA 252	PSIA	4.21346	14.8000	FW	2.03100	0	5.90
P740	24	16	633	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.8000	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-O RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-O RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-O RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-O RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-O RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-O RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-O RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	633	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.8000	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-O RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-O RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-O RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-O RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-O RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-O RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-O RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-O RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
R018	27	FM	1	MR AZIMUTH	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BC FIRST REC 672
FIRST FLT 37-A S/N 20391 DATE 8-22-75 LAST REC 746

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
F050	1	01	1	LIFT LINK AXIAL FORCE	LB	23126.1	-1407.00	FW	11834.0	0	5.84
A005	1	02	1	C.G. LOAD FACTOR	G	2.36626	1.00600	FW	1.12900	0	5.84
F102	1	03	1	COLLECTIVE BOOST TUBE A.F.	LB	9540.49	0.000000	FW	4552.00	0	5.84
F101	1	04	1	LAT CYCLIC BOOST TUBE A.F.	LB	9620.14	0.000000	FW	4590.00	0	5.84
F100	1	05	1	F/A CYCLIC BOOST TUBE A.F.	LB	10181.8	0.000000	FW	4858.00	0	5.84
F103	1	06	1	MR RED PITCH LINK AXIAL FORCE	LB	6715.46	0.000000	FW	3248.00	0	5.92
B112	1	07	320	MR RED YOKE BM BEND STA 6	IN LB	72635.0	-41158.0	FO	13971.0	0	5.91
B115	1	08	1	MR RED YOKE CH BEND STA 11.5	IN LB	286478.	0.000000	FB	275729.	0	5.91
B120	1	09	320	MR RED BLADE BM BEND STA 60	IN LB	62068.6	-23126.0	FW	29868.0	0	5.89
B122	1	10	320	MR RED BLADE BM BEND STA 132	IN LB	38584.1	-11098.0	FW	18567.0	0	5.89
B126	1	11	320	MR RED BLADE BM BEND STA 81.5	IN LB	48983.1	-19725.0	FW	23523.0	0	5.89
F105	1	12	1	MR RED DRAG BRACE AXIAL FORCE	LB	30242.6	0.000000	FW	14553.0	0	5.89
B123	1	13	1	MR RED BLADE CH BEND STA 132	IN LB	277973.	0.000000	FW	133763.	0	5.89
B114	1	14	509	MR RED YOKE BM BEND STA 11.5	IN LB	61151.0	-38531.0	FO	11782.0	0	5.92
M150	1	15	1	MR RED BLADE TORSION STA 81.5	IN LB	33167.5	0.000000	FB	31815.0	0	5.89
M207	1	16	1	TR MAST TORQUE	IN LB	8299.47	0.000000	FW	3987.00	0	5.88
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
A321	2	07	515	90 DEG G.B. VERT VIBR STA 518	G	23.8440	1.00000	FO	4.56300	0	5.88
A306	2	08	320	NOSE LAT VIBRATION STA 46	G	3.11889	0.000000	FW	1.48300	0	5.82
A304	2	09	1	GUNNER LAT VIBRATION STA 100	G	4.95734	0.000000	FO	0.939000	0	5.82
A307	2	10	1	AFT FUS LAT VIBRATION STA 249	G	5.11928	0.000000	FO	0.993000	0	5.96
A311	2	11	320	UPPER FIN LAT VIBR STA 521	G	56.1604	0.000000	FY	5.35600	0	5.88
A600	2	12	515	LT WING VERT VIBRATION STA 195	G	10.1350	1.00000	FY	0.960000	0	5.84
A601	2	13	515	RT WING VERT VIBRATION STA 195	G	9.97668	1.00000	FY	0.945000	0	5.84
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
D007	3	01	1	SIDESLIP ANGLE	DEG	96.7002	0.000000	FW	45.9800	0	5.82
D008	3	02	1	ANGLE OF ATTACK	DEG	86.3740	-3.70000	FW	41.0700	0	5.82
D051	3	03	1	LT FWD PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D052	3	04	1	RT FWD PYLON VERT POS	IN	0.562959	0.000000	FO	0.107000	0	5.84

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
D053	3	05	1	LT AFT PYLON VERT POS	IN	0.560855	0.000000	FO	0.106600	0	5.84
D054	3	06	1	RT AFT PYLON VERT POS	IN	0.543492	0.000000	FO	0.103300	0	5.84
A315	3	07	320	NOSE VERT VIBRATION STA 46	G	3.23035	1.00000	FW	1.53600	0	5.82
A020	3	08	320	GUNNER VERT VIBRATION STA 100	G	2.79501	1.00000	FW	1.32900	0	5.82
A019	3	09	1	PILOT VERT VIBRATION STA 146	G	5.58421	1.00000	FO	1.08500	0	5.97
A316	3	10	1	AFT FUS VERT VIBRATION STA 249	G	4.69139	1.00000	FO	0.910000	0	5.96
A317	3	11	515	T/B JCT VERT VIBRATION STA 297	G	10.2550	1.00000	FY	0.988000	0	5.94
A318	3	12	515	T/B @ ELEV VERT VIBR STA 400	G	15.6524	1.00000	FY	1.50800	0	5.94
R511	3	13	1	ENGINE (N2)	RPM	6184.61	8725.29	ZA	93.8000	0	1.00
P002	3	14	1	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
P030	3	15	672	STATIC PRESSURE-BOOM SYSTEM	PSIA	6.03798	14.7800	FW	2.67100	0	5.82
T004	3	16	320	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
D010	4	01	1	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	4	02	1	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
D011	4	03	1	YAW ATTITUDE	DEG	207.871	0.000000	FO	39.7800	0	5.88
V013	4	04	1	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
V012	4	05	1	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	4	06	1	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A319	4	07	515	T/B LOAD PT VERT VIBR STA 485	G	10.6533	1.00000	FY	1.01600	0	5.88
A320	4	08	320	FIN LOAD PT VERT VIBR STA 521	G	52.4695	1.00000	FY	5.00400	0	5.88
A302	4	09	1	PILOT LAT VIBRATION STA 146	G	5.23423	0.000000	FO	1.01700	0	5.97
A308	4	10	1	T/B JCT LAT VIBRATION STA 297	G	4.97099	0.000000	FO	0.961000	0	5.94
A309	4	11	320	T/B @ ELEV LAT VIBR STA 400	G	13.3378	0.000000	FY	1.28500	0	5.94
A310	4	12	320	T/B LOAD PT LAT VIBR STA 485	G	10.9259	0.000000	FY	1.04200	0	5.88
B121	4	14	500	MR RED BLADE CH BEND STA 60	IN LB	313812.	0.000000	FW	150753.	0	5.88
V017	4	16	552	NONESSENTIAL BUSS VOLTAGE	VOLTS	24.1176	27.0000	FG	1.17400	0	6.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	672	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7800	FO	2.60300	0	5.92
P158	6	08	672	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7800	FO	2.64100	0	5.92
P159	6	09	672	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7800	FW	2.43300	0	5.92
P160	6	10	672	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7800	FB	2.64800	0	5.92
P161	6	11	672	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7800	FB	2.00100	0	5.92
P162	6	12	672	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7800	FB	3.31600	0	5.92
P163	6	13	672	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7800	FB	2.13400	0	5.92
P164	6	14	672	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7800	FO	2.97800	0	5.92
P165	6	15	672	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7800	FO	2.92500	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P166	6	16	672	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7800	FD	2.49400	0	5.92
V167	7	01	515	HWA SEGMENT 7 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V168	7	02	515	HWA SEGMENT 8 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V169	7	03	515	HWA SEGMENT 9 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V170	7	04	515	HWA SEGMENT 10 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V171	7	05	515	HWA SEGMENT 1 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V172	7	06	515	HWA SEGMENT 2 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P173	7	07	672	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7800	FW	2.96600	0	5.92
P174	7	08	672	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7800	FW	2.76100	0	5.92
P175	7	09	672	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7800	FW	2.44300	0	5.92
P176	7	10	672	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7800	FW	4.22500	0	5.92
P177	7	11	672	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7800	FW	2.63200	0	5.92
P178	7	12	672	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7800	FW	1.92100	0	5.92
P179	7	13	672	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7800	FW	2.06200	0	5.92
P180	7	14	672	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7800	FW	2.37300	0	5.93
P181	7	15	672	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7800	FD	2.21100	0	5.93
P182	7	16	672	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7800	FD	2.72300	0	5.93
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	672	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7800	FW	2.61400	0	5.92
P188	8	08	672	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7800	FD	2.79400	0	5.92
P189	8	09	672	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7800	FD	2.66600	0	5.92
P190	8	10	672	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7800	FW	2.60500	0	5.92
P191	8	11	672	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7800	FW	2.52700	0	5.92
P192	8	12	672	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7800	FW	2.85300	0	5.92
P193	8	13	672	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7800	FW	2.94600	0	5.92
P194	8	14	672	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7800	FD	2.34200	0	5.92
P195	8	15	672	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7800	FD	2.76800	0	5.92
P196	8	16	672	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7800	FW	2.91800	0	5.92
V800	9	01	515	HWA SEGMENT 7 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V801	9	02	515	HWA SEGMENT 8 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V802	9	03	515	HWA SEGMENT 9 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V803	9	04	515	HWA SEGMENT 10 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V804	9	05	515	HWA SEGMENT 11 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V805	9	06	515	HWA SEGMENT 12 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P806	9	07	672	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7800	FW	3.00400	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P807	9	08	672	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7800	FW	2.72500	0	5.93
P808	9	09	672	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7800	FW	2.73300	0	5.93
P809	9	10	672	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7800	FW	2.92100	0	5.92
P810	9	11	672	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7800	FW	2.20100	0	5.92
P811	9	12	672	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7800	FW	2.60600	0	5.92
P812	9	13	672	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7800	FW	2.85700	0	5.92
P813	9	14	672	ABS PRESS 10 WHITE STA 228	PSIA	5.05905	14.7800	FW	2.45100	0	5.93
P814	9	15	672	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7800	FW	2.89000	0	5.93
P815	9	16	672	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7800	FW	2.57900	0	5.93
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	672	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7800	FW	1.95500	0	5.92
P823	10	08	672	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7800	FW	1.42900	0	5.92
P824	10	09	672	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7800	FW	2.79900	0	5.92
P825	10	10	672	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7800	FW	2.75400	0	5.92
P826	10	11	672	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7800	FW	2.06800	0	5.92
P827	10	12	672	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7800	FW	2.85300	0	5.92
P828	10	13	672	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7800	FO	3.00100	0	5.92
P829	10	14	672	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7800	FW	2.82900	0	5.93
P830	10	15	672	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7800	FO	1.90400	0	5.93
P831	10	16	672	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7800	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	672	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7800	FO	2.69600	0	5.88
P837	11	08	672	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7800	FY	2.24500	0	5.88
P838	11	09	672	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7800	FO	2.54800	0	5.88
P839	11	10	672	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7800	FO	2.53300	0	5.88
P840	11	11	672	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7800	FO	2.89600	0	5.88
P841	11	12	672	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7800	FW	2.89100	0	5.88
P842	11	13	672	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7800	FW	2.90400	0	5.88
P843	11	14	672	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7800	FW	2.81100	0	5.88
P844	11	15	672	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7800	FO	2.37800	0	5.88
P845	11	16	672	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7800	FO	2.68600	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	672	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7800	FW	2.85000	0	5.93
P853	12	08	672	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7800	FW	2.64600	0	5.93
P854	12	09	672	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7800	FW	1.69000	0	5.93
P855	12	10	672	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7800	FW	2.71900	0	5.93
P856	12	11	672	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7800	FW	2.80400	0	5.93
P857	12	12	672	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7800	FW	3.05100	0	5.93
P858	12	13	672	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7800	FY	2.79000	0	5.93
P859	12	14	672	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7800	FO	3.02100	0	5.93
P860	12	15	672	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7800	FO	1.76300	0	5.93
P861	12	16	672	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7800	FO	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	11/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	672	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7800	FO	2.44200	0	5.93
P869	15	08	672	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7800	FO	2.77000	0	5.93
P870	15	09	672	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7800	FW	1.69000	0	5.93
P871	15	10	672	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7800	FW	1.90100	0	5.93
P872	15	11	672	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7800	FW	1.39500	0	5.93
P873	15	12	672	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7800	FW	2.16800	0	5.93
P874	15	13	672	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7800	FW	2.29800	0	5.93
P875	15	14	672	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7800	FW	2.62800	0	5.93
P876	15	15	672	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7800	FW	1.82300	0	5.93
P877	15	16	672	ABS PRESS 24 WHITE STA 229	PSIA	3.87428	14.7800	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	672	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7800	FW	1.69700	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P885	16	08	672	ABS PRESS 24 WHITE STA 193	PSIA	4.11784	14.7800	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	672	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7800	FW	1.83900	0	5.93
P892	16	15	672	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7800	FW	2.74900	0	5.93
P893	16	16	672	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7800	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	672	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7800	FW	2.67800	0	5.92
P908	17	15	672	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7800	FO	2.61900	0	5.92
P909	17	16	672	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7800	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PAPA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276305.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	672	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7800	FO	2.32200	0	5.90
P920	18	15	672	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7800	FO	2.46400	0	5.90
P921	18	16	672	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7800	FO	2.68800	0	5.90

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88
B131	19	12	552	MR RED BLADE CH BEND STA 155.8	IN LB	249813.	0.000000	FW	120008.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	552	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7600	FD	2.53200	0	5.90
P927	19	15	552	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7600	FD	2.56900	0	5.90
P928	19	16	552	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7600	FD	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	552	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7600	FW	2.46400	0	5.92
P942	20	15	552	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7600	FW	2.32500	0	5.92
P943	20	16	552	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7600	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	672	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7800	FW	2.58400	0	5.92
P958	21	15	672	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7800	FW	2.20500	0	5.92
P959	21	16	672	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7800	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-O RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	672	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7800	FO	2.54800	0	5.91
P974	22	15	672	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7800	FO	2.62100	0	5.91
P975	22	16	672	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7800	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8562	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	672	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7800	FO	2.50600	0	5.91
P990	23	15	672	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7800	FO	1.98200	0	5.91
P991	23	16	672	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7800	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	1	BL BUTTON 5-O RED STA 198	PSI	5.51424	0.000000	FW	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88
P737	24	13	1	BL BUTTON 3-O RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	672	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7800	FW	2.57900	0	5.90
P739	24	15	672	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7800	FW	1.87300	0	5.90
P740	24	16	672	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7800	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-O RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-O RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-O RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-O RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-O RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-O RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-O RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	672	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7800	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-O RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-O RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-O RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-O RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-O RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-O RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-O RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-O RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
R018	27	FM	1	MR AZIMUTH	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER AY FIRST REC 849
FIRST FLT 43 S/N 20391 DATE 9-11-75 LAST REC 870

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L610	1	FM	768	NO. 1 MICROPHONE - YAW BOOM	P/R	0.501187D+07	0.000000	XX	0.5011B7D+07	0	1.00
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
D011	2	06	750	YAW ATTITUDE	DEG	417.114	0.000000	FY	39.7800	0	5.88
D010	2	07	750	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	2	08	750	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
T004	2	09	750	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
V013	2	10	750	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
P002	2	11	768	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
V012	2	12	750	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	2	13	750	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
L611	3	FM	750	NO. 2 MICROPHONE - LEFT WING	P/R	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V167	4	01	768	HWA SEGMENT 7 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V168	4	02	768	HWA SEGMENT 8 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V169	4	03	768	HWA SEGMENT 9 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V170	4	04	768	HWA SEGMENT 10 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V171	4	05	768	HWA SEGMENT 1 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V172	4	06	768	HWA SEGMENT 2 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P173	4	07	849	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7200	FW	2.96600	0	5.92
P174	4	08	849	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7200	FW	2.76100	0	5.92
P175	4	09	849	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7200	FW	2.44300	0	5.92
P176	4	10	849	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7200	FW	4.22500	0	5.92
P177	4	11	849	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7200	FW	2.63200	0	5.92
P178	4	12	849	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7200	FW	1.92100	0	5.92
P179	4	13	849	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7200	FW	2.06200	0	5.92
P180	4	14	849	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7200	FW	2.37300	0	5.93
P181	4	15	849	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7200	FO	2.21100	0	5.93
P182	4	16	849	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7200	FO	2.72300	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L612	5	FM	800	NO. 3 MICROPHONE - AFT.LT ELEV P/R		0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	849	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7200	FO	2.60300	0	5.92
P158	6	08	849	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7200	FO	2.64100	0	5.92
P159	6	09	849	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7200	FW	2.43300	0	5.92
P160	6	10	849	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7200	FB	2.64800	0	5.92
P161	6	11	849	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7200	FB	2.00100	0	5.92
P162	6	12	849	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7200	FB	3.31600	0	5.92
P163	6	13	849	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7200	FB	2.13400	0	5.92
P164	6	14	849	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7200	FO	2.97800	0	5.92
P165	6	15	849	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7200	FO	2.92500	0	5.92
P166	6	16	849	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7200	FO	2.49400	0	5.92
L613	7	FM	800	NO. 4 MICROPHONE - AFT.RT ELEV P/R		0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	849	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7200	FW	2.61400	0	5.92
P188	8	08	849	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7200	FO	2.79400	0	5.92
P189	8	09	849	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7200	FO	2.66600	0	5.92
P190	8	10	849	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7200	FW	2.60500	0	5.92
P191	8	11	849	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7200	FW	2.52700	0	5.92
P192	8	12	849	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7200	FW	2.85300	0	5.92
P193	8	13	849	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7200	FW	2.94600	0	5.92
P194	8	14	849	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7200	FO	2.34200	0	5.92
P195	8	15	849	ABS PRESS 8 WHITE STA 228	PSIA	14.3685	14.7200	FO	2.76800	0	5.92
P196	8	16	849	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7200	FW	2.91800	0	5.92
L614	9	FM	800	NO. 5 MICROPHONE - RIGHT WING P/R		0.501187D+07	0.000000	XX	0.501187D+07	0	1.00
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	849	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7200	FW	1.95500	0	5.92
P823	10	08	849	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7200	FW	1.42900	0	5.92
P824	10	09	849	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7200	FW	2.79900	0	5.92
P825	10	10	849	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7200	FW	2.75400	0	5.92
P826	10	11	849	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7200	FW	2.06800	0	5.92
P827	10	12	849	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7200	FW	2.85300	0	5.92
P828	10	13	849	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7200	FO	3.00100	0	5.92
P829	10	14	849	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7200	FW	2.82900	0	5.93
P830	10	15	849	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7200	FO	1.90400	0	5.93
P831	10	16	849	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7200	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	849	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7200	FO	2.69600	0	5.88
P837	11	08	849	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7200	FY	2.24500	0	5.88
P838	11	09	849	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7200	FO	2.54800	0	5.88
P839	11	10	849	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7200	FO	2.53300	0	5.88
P840	11	11	849	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7200	FO	2.89800	0	5.88
P841	11	12	849	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7200	FW	2.89100	0	5.88
P842	11	13	849	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7200	FW	2.90400	0	5.88
P843	11	14	849	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7200	FW	2.81100	0	5.88
P844	11	15	849	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7200	FO	2.37800	0	5.88
P845	11	16	849	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7200	FO	2.68600	0	5.88
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	849	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7200	FW	2.85000	0	5.93
P853	12	08	849	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7200	FW	2.64600	0	5.93
P854	12	09	849	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7200	FW	1.69000	0	5.93
P855	12	10	849	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7200	FW	2.71900	0	5.93
P856	12	11	849	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7200	FW	2.80400	0	5.93
P857	12	12	849	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7200	FW	3.05100	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P858	12	13	849	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7200	FY	2.79000	0	5.93
P859	12	14	849	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7200	FO	3.02100	0	5.93
P860	12	15	849	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7200	FO	1.76300	0	5.93
P861	12	16	849	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7200	FO	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	11/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	849	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7200	FO	2.44200	0	5.93
P869	15	08	849	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7200	FO	2.77000	0	5.93
P870	15	09	849	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7200	FW	1.69000	0	5.93
P871	15	10	849	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7200	FW	1.90100	0	5.93
P872	15	11	849	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7200	FW	1.39500	0	5.93
P873	15	12	849	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7200	FW	2.16800	0	5.93
P874	15	13	849	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7200	FW	2.29800	0	5.93
P875	15	14	849	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7200	FW	2.62800	0	5.93
P876	15	15	849	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7200	FW	1.82300	0	5.93
P877	15	16	849	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7200	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	849	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7200	FW	1.69700	0	5.93
P885	16	08	849	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7200	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	849	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7200	FW	1.83900	0	5.93
P892	16	15	849	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7200	FW	2.74900	0	5.93
P893	16	16	849	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7200	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	849	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7200	FW	2.67800	0	5.92
P908	17	15	849	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7200	FO	2.61900	0	5.92
P909	17	16	849	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7200	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	849	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7200	FO	2.32200	0	5.90
P920	18	15	849	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7200	FO	2.46400	0	5.90
P921	18	16	849	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7200	FO	2.68800	0	5.90
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	849	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7200	FO	2.53200	0	5.90
P927	19	15	849	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7200	FO	2.56900	0	5.90
P928	19	16	849	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7200	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	849	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7200	FW	2.46400	0	5.92
P942	20	15	849	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7200	FW	2.32500	0	5.92
P943	20	16	849	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7200	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	849	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7200	FW	2.58400	0	5.92
P958	21	15	849	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7200	FW	2.20500	0	5.92
P959	21	16	849	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7200	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-O RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	849	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7200	FO	2.54800	0	5.91
P974	22	15	849	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7200	FO	2.62100	0	5.91
P975	22	16	849	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7200	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	849	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7200	FO	2.50600	0	5.91
P990	23	15	849	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7200	FO	1.98200	0	5.91
P991	23	16	849	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7200	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	834	BL BUTTON 5-0 RED STA 198	PSID	27.7761	0.000000	FY	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P737	24	13	1	BL BUTTON 3-0 RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	849	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7200	FW	2.57900	0	5.90
P739	24	15	849	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7200	FW	1.87300	0	5.90
P740	24	16	849	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7200	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-0 RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-0 RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-0 RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-0 RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-0 RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-0 RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-0 RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	849	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7200	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-0 RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-0 RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-0 RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-0 RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-0 RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-0 RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-0 RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-0 RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
V800	27	01	768	HWA SEGMENT 7 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V801	27	02	768	HWA SEGMENT 8 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V802	27	03	768	HWA SEGMENT 9 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V803	27	04	768	HWA SEGMENT 10 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V804	27	05	768	HWA SEGMENT 11 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V805	27	06	768	HWA SEGMENT 12 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P806	27	07	849	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7200	FW	3.00400	0	5.93
P807	27	08	849	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7200	FW	2.72500	0	5.93
P808	27	09	849	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7200	FW	2.73300	0	5.93
P809	27	10	849	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7200	FW	2.92100	0	5.92
P810	27	11	849	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7200	FW	2.20100	0	5.92
P811	27	12	849	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7200	FW	2.60600	0	5.92
P812	27	13	849	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7200	FW	2.85700	0	5.92
P813	27	14	849	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7200	FW	2.45100	0	5.93
P814	27	15	849	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7200	FW	2.89000	0	5.93
P815	27	16	849	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7200	FW	2.57900	0	5.93
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER AZ FIRST REC 872
FIRST FLT 44-A S/N 20391 DATE 9-16-75 LAST REC 943

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L610	1	FM	872	NO. 1 MICROPHONE - YAW BOOM	P/P	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
D011	2	06	750	YAW ATTITUDE	DEG	417.114	0.000000	FY	39.7800	0	5.88
D010	2	07	750	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	2	08	750	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
T004	2	09	750	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
V013	2	10	750	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
P002	2	11	768	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
V012	2	12	750	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	2	13	750	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
L611	3	FM	750	NO. 2 MICROPHONE - LEFT WING	P/P	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V167	4	01	768	HWA SEGMENT 7 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V168	4	02	768	HWA SEGMENT 8 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V169	4	03	768	HWA SEGMENT 9 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V170	4	04	768	HWA SEGMENT 10 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V171	4	05	768	HWA SEGMENT 1 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V172	4	06	768	HWA SEGMENT 2 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P173	4	07	872	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7600	FW	2.96600	0	5.92
P174	4	08	872	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7600	FW	2.76100	0	5.92
P175	4	09	872	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7600	FW	2.44300	0	5.92
P176	4	10	872	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7600	FW	4.22500	0	5.92
P177	4	11	872	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7600	FW	2.63200	0	5.92
P178	4	12	872	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7600	FW	1.92100	0	5.92
P179	4	13	872	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7600	FW	2.06200	0	5.92
P180	4	14	872	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7600	FW	2.37300	0	5.93
P181	4	15	872	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7600	FO	2.21100	0	5.93
P182	4	16	872	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7600	FO	2.72300	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L612	5	FM	872	NO. 3 MICROPHONE - AFT.LT ELEV	P/R	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	872	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7600	FO	2.60300	0	5.92
P158	6	08	872	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7600	FO	2.64100	0	5.92
P159	6	09	872	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7600	FW	2.43300	0	5.92
P160	6	10	872	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7600	FB	2.64800	0	5.92
P161	6	11	872	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7600	FB	2.00100	0	5.92
P162	6	12	872	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7600	FB	3.31600	0	5.92
P163	6	13	872	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7600	FB	2.13400	0	5.92
P164	6	14	872	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7600	FO	2.97800	0	5.92
P165	6	15	872	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7600	FO	2.92500	0	5.92
P166	6	16	872	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7600	FO	2.49400	0	5.92
L613	7	FM	872	NO. 4 MICROPHONE - AFT.RT ELEV	P/R	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	872	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7600	FW	2.61400	0	5.92
P188	8	08	872	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7600	FO	2.79400	0	5.92
P189	8	09	872	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7600	FO	2.66600	0	5.92
P190	8	10	872	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7600	FW	2.60500	0	5.92
P191	8	11	872	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7600	FW	2.52700	0	5.92
P192	8	12	872	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7600	FW	2.85300	0	5.92
P193	8	13	872	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7600	FW	2.94600	0	5.92
P194	8	14	872	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7600	FO	2.34200	0	5.92
P195	8	15	872	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7600	FO	2.76800	0	5.92
P196	8	16	872	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7600	FW	2.91800	0	5.92
L614	9	FM	872	NO. 5 MICROPHONE - RIGHT WING	P/R	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	872	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7600	FW	1.95500	0	5.92
P823	10	08	872	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7600	FW	1.42900	0	5.92
P824	10	09	872	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7600	FW	2.79900	0	5.92
P825	10	10	872	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7600	FW	2.75400	0	5.92
P826	10	11	872	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7600	FW	2.06800	0	5.92
P827	10	12	872	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7600	FW	2.85300	0	5.92
P828	10	13	872	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7600	FO	3.00100	0	5.92
P829	10	14	872	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7600	FW	2.82900	0	5.93
P830	10	15	872	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7600	FO	1.90400	0	5.93
P831	10	16	872	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7600	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	872	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7600	FO	2.69600	0	5.88
P837	11	08	872	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7600	FY	2.24500	0	5.88
P838	11	09	872	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7600	FO	2.54800	0	5.88
P839	11	10	872	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7600	FO	2.53300	0	5.88
P840	11	11	872	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7600	FO	2.89800	0	5.88
P841	11	12	872	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7600	FW	2.89100	0	5.88
P842	11	13	872	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7600	FW	2.90400	0	5.88
P843	11	14	872	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7600	FW	2.81100	0	5.88
P844	11	15	872	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7600	FO	2.37800	0	5.88
P845	11	16	872	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7600	FO	2.68600	0	5.88
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	872	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7600	FW	2.85000	0	5.93
P853	12	08	872	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7600	FW	2.64600	0	5.93
P854	12	09	872	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7600	FW	1.69000	0	5.93
P855	12	10	872	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7600	FW	2.71900	0	5.93
P856	12	11	872	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7600	FW	2.80400	0	5.93
P857	12	12	872	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7600	FW	3.05100	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P856	12	13	872	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7600	FY	2.79000	0	5.93
P859	12	14	872	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7600	FO	3.02100	0	5.93
P860	12	15	872	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7600	FO	1.76300	0	5.93
P861	12	16	872	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7600	FO	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	1/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	872	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7600	FO	2.44200	0	5.93
P869	15	08	872	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7600	FO	2.77000	0	5.93
P870	15	09	872	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7600	FW	1.69000	0	5.93
P871	15	10	872	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7600	FW	1.90100	0	5.93
P872	15	11	872	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7600	FW	1.39500	0	5.93
P873	15	12	872	ABS PRESS 21 WHITE STA 198	PSIA	4.47483	14.7600	FW	2.16800	0	5.93
P874	15	13	872	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7600	FW	2.29800	0	5.93
P875	15	14	872	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7600	FW	2.62800	0	5.93
P876	15	15	872	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7600	FW	1.82300	0	5.93
P877	15	16	872	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7600	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	872	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7600	FW	1.69700	0	5.93
P885	16	08	872	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7600	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORN BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORN BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	872	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7600	FW	1.83900	0	5.93
P892	16	15	872	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7600	FW	2.74900	0	5.93
P893	16	16	872	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7600	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	872	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7600	FW	2.67800	0	5.92
P908	17	15	872	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7600	FO	2.61900	0	5.92
P909	17	16	872	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7600	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PAPA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276095.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	872	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7600	FO	2.32200	0	5.90
P920	18	15	872	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7600	FO	2.46400	0	5.90
P921	18	16	872	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7600	FO	2.68800	0	5.90
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35874.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	872	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7600	FO	2.53200	0	5.90
P927	19	15	872	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7600	FO	2.56900	0	5.90
P928	19	16	872	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7600	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	872	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7600	FW	2.46400	0	5.92
P942	20	15	872	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7600	FW	2.32500	0	5.92
P943	20	16	872	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7600	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	872	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7600	FW	2.58400	0	5.92
P958	21	15	872	ABS PRESS 13 WHITE STA 252	PSIA	4.55839	14.7600	FW	2.20500	0	5.92
P959	21	16	872	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7600	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-O RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-O RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	872	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7600	FO	2.54800	0	5.91
P974	22	15	872	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7600	FO	2.62100	0	5.91
P975	22	16	872	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7600	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-O RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-O RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-O RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-O RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-O RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	872	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7600	FO	2.50600	0	5.91
P990	23	15	872	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7600	FO	1.98200	0	5.91
P991	23	16	872	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7600	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-O RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-O RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	834	BL BUTTON 5-O RED STA 198	PSID	27.7761	0.000000	FY	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-O RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-O RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-O RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P737	24	13	1	BL BUTTON 3-0 RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	872	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7600	FW	2.57900	0	5.90
P739	24	15	872	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7600	FW	1.87300	0	5.90
P740	24	16	872	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7600	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-0 RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-0 RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-0 RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-0 RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-0 RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-0 RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-0 RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	872	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7600	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-0 RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-0 RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-0 RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-0 RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-0 RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-0 RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-0 RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-0 RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
V800	27	01	768	HWA SEGMENT 7 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V801	27	02	768	HWA SEGMENT 8 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V802	27	03	768	HWA SEGMENT 9 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V803	27	04	768	HWA SEGMENT 10 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V804	27	05	768	HWA SEGMENT 11 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V805	27	06	768	HWA SEGMENT 12 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P806	27	07	872	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7600	FW	3.00400	0	5.93
P807	27	08	872	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7600	FW	2.72500	0	5.93
P808	27	09	872	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7600	FW	2.73300	0	5.93
P809	27	10	872	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7600	FW	2.92100	0	5.92
P810	27	11	872	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7600	FW	2.20100	0	5.92
P811	27	12	872	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7600	FW	2.60600	0	5.92
P812	27	13	872	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7600	FW	2.85700	0	5.92
P813	27	14	872	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7600	FW	2.45100	0	5.93
P814	27	15	872	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7600	FW	2.89000	0	5.93
P815	27	16	872	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7600	FW	2.57900	0	5.93
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BA FIRST REC 944
FIRST FLT 44-C S/N 20391 DATE 9-16-75 LAST REC 1013

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L610	1	FM	944	NO. 1 MICROPHONE - YAW BOOM	P/R	0.501187D+07	0.000000	XX	0.501187D+07	0	1.00
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
D011	2	06	750	YAW ATTITUDE	DEG	417.114	0.000000	FY	39.7800	0	5.88
D010	2	07	750	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	2	08	750	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
T004	2	09	750	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
V013	2	10	750	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
P002	2	11	768	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
V012	2	12	750	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	2	13	750	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
L611	3	FM	750	NO. 2 MICROPHONE - LEFT WING	P/R	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V167	4	01	768	HWA SEGMENT 7 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V168	4	02	768	HWA SEGMENT 8 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V169	4	03	768	HWA SEGMENT 9 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V170	4	04	768	HWA SEGMENT 10 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V171	4	05	768	HWA SEGMENT 1 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V172	4	06	768	HWA SEGMENT 2 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P173	4	07	872	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7600	FW	2.96600	0	5.92
P174	4	08	872	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7600	FW	2.76100	0	5.92
P175	4	09	872	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7600	FW	2.44300	0	5.92
P176	4	10	872	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7600	FW	4.22500	0	5.92
P177	4	11	872	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7600	FW	2.63200	0	5.92
P178	4	12	872	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7600	FW	1.92100	0	5.92
P179	4	13	872	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7600	FW	2.06200	0	5.92
P180	4	14	872	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7600	FW	2.37300	0	5.93
P181	4	15	872	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7600	FO	2.21100	0	5.93
P182	4	16	872	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7600	FO	2.72300	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L612	5	FM	944	NO. 3 MICROPHONE - AFT.LT ELEV	P/R	0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	872	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7600	FO	2.60300	0	5.92
P158	6	08	872	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7600	FO	2.64100	0	5.92
P159	6	09	872	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7600	FW	2.43300	0	5.92
P160	6	10	872	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7600	FB	2.64800	0	5.92
P161	6	11	872	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7600	FB	2.00100	0	5.92
P162	6	12	872	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7600	FB	3.31600	0	5.92
P163	6	13	872	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7600	FB	2.13400	0	5.92
P164	6	14	872	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7600	FO	2.97800	0	5.92
P165	6	15	872	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7600	FO	2.92500	0	5.92
P166	6	16	872	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7600	FO	2.49400	0	5.92
L613	7	FM	944	NO. 4 MICROPHONE - AFT.RT ELEV	P/R	0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	872	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7600	FW	2.61400	0	5.92
P188	8	08	872	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7600	FO	2.79400	0	5.92
P189	8	09	872	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7600	FO	2.66600	0	5.92
P190	8	10	872	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7600	FW	2.60500	0	5.92
P191	8	11	872	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7600	FW	2.52700	0	5.92
P192	8	12	872	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7600	FW	2.85300	0	5.92
P193	8	13	872	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7600	FW	2.94600	0	5.92
P194	8	14	872	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7600	FO	2.34200	0	5.92
P195	8	15	872	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7600	FO	2.76800	0	5.92
P196	8	16	872	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7600	FW	2.91800	0	5.92
L614	9	FM	944	NO. 5 MICROPHONE - RIGHT WING	P/R	0.501187D+07	0.000000	XX	0.501187D+07	0	1.00
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 196	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 196	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	872	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7600	FW	1.95500	0	5.92
P823	10	08	872	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7600	FW	1.42900	0	5.92
P824	10	09	872	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7600	FW	2.79900	0	5.92
P825	10	10	872	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7600	FW	2.75400	0	5.92
P826	10	11	872	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7600	FW	2.06800	0	5.92
P827	10	12	872	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7600	FW	2.85300	0	5.92
P828	10	13	872	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7600	FD	3.00100	0	5.92
P829	10	14	872	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7600	FW	2.82900	0	5.93
P830	10	15	872	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7600	FD	1.90400	0	5.93
P831	10	16	872	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7600	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	872	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7600	FD	2.69600	0	5.88
P837	11	08	872	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7600	FY	2.24500	0	5.88
P838	11	09	872	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7600	FD	2.54800	0	5.88
P839	11	10	872	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7600	FD	2.53300	0	5.88
P840	11	11	872	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7600	FD	2.89800	0	5.88
P841	11	12	872	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7600	FW	2.89100	0	5.88
P842	11	13	872	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7600	FW	2.90400	0	5.88
P843	11	14	872	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7600	FW	2.81100	0	5.88
P844	11	15	872	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7600	FD	2.37800	0	5.88
P845	11	16	872	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7600	FD	2.68600	0	5.88
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	872	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7600	FW	2.85000	0	5.93
P853	12	08	872	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7600	FW	2.64600	0	5.93
P854	12	09	872	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7600	FW	1.69000	0	5.93
P855	12	10	872	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7600	FW	2.71900	0	5.93
P856	12	11	872	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7600	FW	2.80400	0	5.93
P857	12	12	872	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7600	FW	3.05100	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P858	12	13	872	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7600	FY	2.79000	0	5.93
P859	12	14	872	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7600	FD	3.02100	0	5.93
P860	12	15	872	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7600	FD	1.76300	0	5.93
P861	12	16	872	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7600	FD	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	11/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	872	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7600	FD	2.44200	0	5.93
P869	15	08	872	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7600	FD	2.77000	0	5.93
P870	15	09	872	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7600	FW	1.69000	0	5.93
P871	15	10	872	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7600	FW	1.90100	0	5.93
P872	15	11	872	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7600	FW	1.39500	0	5.93
P873	15	12	872	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7600	FW	2.16800	0	5.93
P874	15	13	872	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7600	FW	2.29800	0	5.93
P875	15	14	872	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7600	FW	2.62800	0	5.93
P876	15	15	872	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7600	FW	1.82300	0	5.93
P877	15	16	872	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7600	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	872	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7600	FW	1.69700	0	5.93
P885	16	08	872	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7600	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORN BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORN BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FD	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FD	2.62900	0	5.92
P891	16	14	872	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7600	FW	1.83900	0	5.93
P892	16	15	872	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7600	FW	2.74900	0	5.93
P893	16	16	872	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7600	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	872	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7600	FW	2.67800	0	5.92
P908	17	15	872	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7600	FO	2.61900	0	5.92
P909	17	16	872	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7600	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75517.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	872	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7600	FO	2.32200	0	5.90
P920	18	15	872	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7600	FO	2.46400	0	5.90
P921	18	16	872	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7600	FO	2.68800	0	5.90
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	872	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7600	FO	2.53200	0	5.90
P927	19	15	872	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7600	FO	2.56900	0	5.90
P928	19	16	872	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7600	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	872	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7600	FW	2.46400	0	5.92
P942	20	15	872	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7600	FW	2.32500	0	5.92
P943	20	16	872	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7600	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	872	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7600	FW	2.58400	0	5.92
P958	21	15	872	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7600	FW	2.20500	0	5.92
P959	21	16	872	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7600	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-0 RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-0 RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	872	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7600	FO	2.54800	0	5.91
P974	22	15	872	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7600	FO	2.62100	0	5.91
P975	22	16	872	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7600	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-0 RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-0 RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-0 RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-0 RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-0 RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-0 RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	872	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7600	FO	2.50600	0	5.91
P990	23	15	872	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7600	FO	1.98200	0	5.91
P991	23	16	872	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7600	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-0 RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-0 RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	834	BL BUTTON 5-0 RED STA 198	PSID	27.7761	0.000000	FY	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-0 RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-0 RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-0 RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P737	24	13	1	BL BUTTON 3-0 RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	872	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7600	FW	2.57900	0	5.90
P739	24	15	872	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7600	FW	1.87300	0	5.90
P740	24	16	872	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7600	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-0 RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-0 RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-0 RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-0 RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-0 RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-0 RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-0 RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	872	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7600	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-0 RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-0 RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-0 RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-0 RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-0 RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-0 RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-0 RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-0 RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
V800	27	01	768	HWA SEGMENT 7 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V801	27	02	768	HWA SEGMENT 8 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V802	27	03	768	HWA SEGMENT 9 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V803	27	04	768	HWA SEGMENT 10 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V804	27	05	768	HWA SEGMENT 11 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V805	27	06	768	HWA SEGMENT 12 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P806	27	07	872	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7600	FW	3.00400	0	5.93
P807	27	08	872	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7600	FW	2.72500	0	5.93
P808	27	09	872	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7600	FW	2.73300	0	5.93
P809	27	10	872	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7600	FW	2.92100	0	5.92
P810	27	11	872	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7600	FW	2.20100	0	5.92
P811	27	12	872	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7600	FW	2.60600	0	5.92
P812	27	13	872	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7600	FW	2.85700	0	5.92
P813	27	14	872	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7600	FW	2.45100	0	5.93
P814	27	15	872	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7600	FW	2.89000	0	5.93
P815	27	16	872	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7600	FW	2.57900	0	5.93
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BB FIRST REC 1015
FIRST FLT 45-A S/N 20391 DATE 9-17-75 LAST REC 1082

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L610	1	FM	944	NO. 1 MICROPHONE - YAW BOOM	P/R	0.501187D+07	0.000000	XX	0.501187D+07	0	1.00
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1083	0.000000	FB	31.1650	0	5.96
D011	2	06	750	YAW ATTITUDE	DEG	417.114	0.000000	FY	39.7800	0	5.88
D010	2	07	750	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	2	08	750	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
T004	2	09	750	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
V013	2	10	750	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
P002	2	11	768	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
V012	2	12	750	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	2	13	750	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
L611	3	FM	750	NO. 2 MICROPHONE - LEFT WING	P/R	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V167	4	01	768	HWA SEGMENT 7 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V168	4	02	768	HWA SEGMENT 8 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V169	4	03	768	HWA SEGMENT 9 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V170	4	04	768	HWA SEGMENT 10 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V171	4	05	768	HWA SEGMENT 1 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V172	4	06	768	HWA SEGMENT 2 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P173	4	07	1015	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7100	FW	2.96600	0	5.92
P174	4	08	1015	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7100	FW	2.76100	0	5.92
P175	4	09	1015	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7100	FW	2.44300	0	5.92
P176	4	10	1015	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7100	FW	4.22500	0	5.92
P177	4	11	1015	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7100	FW	2.63200	0	5.92
P178	4	12	1015	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7100	FW	1.92100	0	5.92
P179	4	13	1015	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7100	FW	2.06200	0	5.92
P180	4	14	1015	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7100	FW	2.37300	0	5.93
P181	4	15	1015	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7100	FO	2.21100	0	5.93
P182	4	16	1015	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7100	FO	2.72300	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L612	5	FM	944	NO. 3 MICROPHONE - AFT,LT ELEV P/R		0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	1015	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7100	FO	2.60300	0	5.92
P158	6	08	1015	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7100	FO	2.64100	0	5.92
P159	6	09	1015	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7100	FW	2.43300	0	5.92
P160	6	10	1015	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7100	FB	2.64800	0	5.92
P161	6	11	1015	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7100	FB	2.00100	0	5.92
P162	6	12	1015	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7100	FB	3.31600	0	5.92
P163	6	13	1015	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7100	FB	2.13400	0	5.92
P164	6	14	1015	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7100	FO	2.97800	0	5.92
P165	6	15	1015	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7100	FO	2.92500	0	5.92
P166	6	16	1015	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7100	FO	2.49400	0	5.92
L613	7	FM	944	NO. 4 MICROPHONE - AFT,RT ELEV P/R		0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	1015	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7100	FW	2.61400	0	5.92
P188	8	08	1015	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7100	FO	2.79400	0	5.92
P189	8	09	1015	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7100	FO	2.66600	0	5.92
P190	8	10	1015	ABS PPESS 4 WHITE STA 158.4	PSIA	5.38601	14.7100	FW	2.60500	0	5.92
P191	8	11	1015	ABS PPESS 5 WHITE STA 158.4	PSIA	5.22474	14.7100	FW	2.52700	0	5.92
P192	8	12	1015	ABS PPESS 6 WHITE STA 158.4	PSIA	5.89877	14.7100	FW	2.85300	0	5.92
P193	8	13	1015	ABS PPESS 7 WHITE STA 158.4	PSIA	6.09105	14.7100	FW	2.94600	0	5.92
P194	8	14	1015	ABS PPESS 7 WHITE STA 228	PSIA	12.1555	14.7100	FO	2.34200	0	5.92
P195	8	15	1015	ABS PPESS 8 WHITE STA 228	PSIA	14.3665	14.7100	FO	2.76800	0	5.92
P196	8	16	1015	ABS PPESS 9 WHITE STA 228	PSIA	6.03316	14.7100	FW	2.91800	0	5.92
L614	9	FM	944	NO. 5 MICROPHONE - RIGHT WING P/R		0.501187D+07	0.000000	XX	0.501187D+07	0	1.00
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	1015	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7100	FW	1.95500	0	5.92
P823	10	08	1015	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7100	FW	1.42900	0	5.92
P824	10	09	1015	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7100	FW	2.79900	0	5.92
P825	10	10	1015	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7100	FW	2.75400	0	5.92
P826	10	11	1015	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7100	FW	2.06800	0	5.92
P827	10	12	1015	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7100	FW	2.85300	0	5.92
P828	10	13	1015	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7100	FO	3.00100	0	5.92
P829	10	14	1015	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7100	FW	2.82900	0	5.93
P830	10	15	1015	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7100	FO	1.90400	0	5.93
P831	10	16	1015	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7100	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	1015	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7100	FO	2.69600	0	5.88
P837	11	08	1015	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7100	FY	2.24500	0	5.88
P838	11	09	1015	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7100	FO	2.54800	0	5.88
P839	11	10	1015	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7100	FO	2.53300	0	5.88
P840	11	11	1015	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7100	FO	2.89800	0	5.88
P841	11	12	1015	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7100	FW	2.89100	0	5.88
P842	11	13	1015	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7100	FW	2.90400	0	5.88
P843	11	14	1015	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7100	FW	2.81100	0	5.88
P844	11	15	1015	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7100	FO	2.37800	0	5.88
P845	11	16	1015	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7100	FO	2.68600	0	5.88
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	1015	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7100	FW	2.85000	0	5.93
P853	12	08	1015	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7100	FW	2.64600	0	5.93
P854	12	09	1015	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7100	FW	1.69000	0	5.93
P855	12	10	1015	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7100	FW	2.71900	0	5.93
P856	12	11	1015	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7100	FW	2.80400	0	5.93
P857	12	12	1015	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7100	FW	3.05100	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P858	12	13	1015	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7100	FY	2.79000	0	5.93
P859	12	14	1015	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7100	FO	3.02100	0	5.93
P860	12	15	1015	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7100	FO	1.76300	0	5.93
P861	12	16	1015	ABS PRESS 21 WHITE STA 228.	PSIA	8.41468	14.7100	FO	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	11/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	1015	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7100	FO	2.44200	0	5.93
P869	15	08	1015	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7100	FO	2.77000	0	5.93
P870	15	09	1015	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7100	FW	1.69000	0	5.93
P871	15	10	1015	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7100	FW	1.90100	0	5.93
P872	15	11	1015	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7100	FW	1.39500	0	5.93
P873	15	12	1015	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7100	FW	2.16800	0	5.93
P874	15	13	1015	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7100	FW	2.29800	0	5.93
P875	15	14	1015	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7100	FW	2.62800	0	5.93
P876	15	15	1015	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7100	FW	1.82300	0	5.93
P877	15	16	1015	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7100	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	1015	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7100	FW	1.69700	0	5.93
P885	16	08	1015	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7100	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	1015	ABS PRESS 25 WHITE STA 228	PSIA	3.79794	14.7100	FW	1.83900	0	5.93
P892	16	15	1015	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7100	FW	2.74900	0	5.93
P893	16	16	1015	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7100	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	RSF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	1015	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7100	FW	2.67800	0	5.92
P908	17	15	1015	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7100	FO	2.61900	0	5.92
P909	17	16	1015	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7100	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92.00	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PERP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	1015	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7100	FO	2.32200	0	5.90
P920	18	15	1015	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7100	FO	2.46400	0	5.90
P921	18	16	1015	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7100	FO	2.68800	0	5.90
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	1015	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7100	FO	2.53200	0	5.90
P927	19	15	1015	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7100	FO	2.56900	0	5.90
P928	19	16	1015	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7100	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	1015	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7100	FW	2.46400	0	5.92
P942	20	15	1015	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7100	FW	2.32500	0	5.92
P943	20	16	1015	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7100	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	1015	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7100	FW	2.58400	0	5.92
P958	21	15	1015	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7100	FW	2.20500	0	5.92
P959	21	16	1015	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7100	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-0 RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-0 RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	1015	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7100	FO	2.54800	0	5.91
P974	22	15	1015	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7100	FO	2.62100	0	5.91
P975	22	16	1015	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7100	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-0 RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-0 RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-0 RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-0 RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-1 RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-0 RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-1 RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-0 RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	1015	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7100	FO	2.50600	0	5.91
P990	23	15	1015	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7100	FO	1.98200	0	5.91
P991	23	16	1015	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7100	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-0 RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-0 RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	834	BL BUTTON 5-0 RED STA 198	PSID	27.7761	0.000000	FY	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-0 RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-0 RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-0 RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P737	24	13	1	BL BUTTON 3-0 RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	1015	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7100	FW	2.57900	0	5.90
P739	24	15	1015	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7100	FW	1.87300	0	5.90
P740	24	16	1015	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7100	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-0 RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-1 RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-1 RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-0 RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-1 RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-0 RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-1 RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-0 RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-1 RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-0 RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-1 RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-0 RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-1 RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-1 RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-0 RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	1015	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7100	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-1 RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-0 RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-1 RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-0 RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-1 RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-0 RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-1 RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-0 RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-1 RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-0 RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88
P768	26	11	1	BL BUTTON 6-1 RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-0 RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-1 RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-0 RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-1 RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-0 RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
V800	27	01	768	HWA SEGMENT 7 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V801	27	02	768	HWA SEGMENT 8 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V802	27	03	768	HWA SEGMENT 9 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V803	27	04	768	HWA SEGMENT 10 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V804	27	05	768	HWA SEGMENT 11 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V805	27	06	768	HWA SEGMENT 12 RED STA 156.4	% FS	60.0002	40.0000	FG	2.32070	0	6.00
P806	27	07	1015	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7100	FW	3.00400	0	5.93
P807	27	08	1015	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7100	FW	2.72500	0	5.93
P808	27	09	1015	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7100	FW	2.73300	0	5.93
P809	27	10	1015	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7100	FW	2.92100	0	5.92
P810	27	11	1015	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7100	FW	2.20100	0	5.92
P811	27	12	1015	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7100	FW	2.60600	0	5.92
P812	27	13	1015	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7100	FW	2.85700	0	5.92
P813	27	14	1015	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7100	FW	2.45100	0	5.93
P814	27	15	1015	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7100	FW	2.89000	0	5.93
P815	27	16	1015	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7100	FW	2.57900	0	5.93
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.6 (CONTINUED)

OPERATIONAL LOAD SURVEY

PROG. NO. F0267 MODEL AH-1G CHANGE LETTER BC FIRST REC 1083
FIRST FLT 45-C S/N 20391 DATE 9-17-75 LAST REC 1116

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L610	1	FM	944	NO. 1 MICROPHONE - YAW BOOM	P/R	0.501187D+07	0.000000	XX	0.501187D+07	0	1.00
D023	2	01	1	COLLECTIVE STICK POSITION	PCT	77.9987	0.000000	FO	15.1550	0	5.97
D024	2	02	1	PEDAL POSITION	PCT	90.9109	0.000000	FO	17.2200	0	5.82
D021	2	03	1	F/A CYCLIC STICK POSITION	PCT	67.0481	54.1300	FO	12.7000	0	5.82
D022	2	04	1	LAT CYCLIC STICK POSITION	PCT	69.4767	56.6500	FO	13.1600	0	5.82
P506	2	05	1	ENGINE TORQUE PRESSURE	PSI	32.1033	0.000000	FB	31.1650	0	5.96
D011	2	06	750	YAW ATTITUDE	DEG	417.114	0.000000	FY	39.7800	0	5.88
D010	2	07	750	PITCH ATTITUDE	DEG	51.8327	0.000000	FW	24.9000	0	5.88
D009	2	08	750	ROLL ATTITUDE	DEG	82.8490	0.000000	FW	39.8000	0	5.88
T004	2	09	750	OAT	DEG C	71.1496	21.0300	FO	13.9400	0	6.02
V013	2	10	750	PITCH RATE	DEG/S	112.510	0.000000	XX	112.510	0	1.00
P002	2	11	768	AIRSPEED-BOOM SYSTEM	KT**2	26604.1	0.000000	FW	12650.0	0	5.82
V012	2	12	750	ROLL RATE	DEG/S	112.160	0.000000	XX	112.160	0	1.00
V014	2	13	750	YAW RATE	DEG/S	109.990	0.000000	XX	109.990	0	1.00
A887	2	14	320	MAST TOP LAT VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
A888	2	15	320	MAST TOP VERT VIBR STA 200	G	9.90182	1.00000	FY	0.962000	0	5.99
A886	2	16	320	MAST TOP F/A VIBRATION STA 200	G	15.1204	0.000000	FY	1.46900	0	5.99
L611	3	FM	750	NO. 2 MICROPHONE - LEFT WING	P/R	0.158489D+07	0.000000	XX	0.158489D+07	0	1.00
V167	4	01	768	HWA SEGMENT 7 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V168	4	02	768	HWA SEGMENT 8 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V169	4	03	768	HWA SEGMENT 9 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V170	4	04	768	HWA SEGMENT 10 RED STA 105.6	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V171	4	05	768	HWA SEGMENT 1 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V172	4	06	768	HWA SEGMENT 2 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P173	4	07	1015	ABS PRESS 8 WHITE STA 105.6	PSIA	6.13241	14.7100	FW	2.96600	0	5.92
P174	4	08	1015	ABS PRESS 9 WHITE STA 105.6	PSIA	5.70855	14.7100	FW	2.76100	0	5.92
P175	4	09	1015	ABS PRESS 10 WHITE STA 105.6	PSIA	5.05107	14.7100	FW	2.44300	0	5.92
P176	4	10	1015	ABS PRESS 11 WHITE STA 105.6	PSIA	8.73547	14.7100	FW	4.22500	0	5.92
P177	4	11	1015	ABS PRESS 12 WHITE STA 105.6	PSIA	5.44184	14.7100	FW	2.63200	0	5.92
P178	4	12	1015	ABS PRESS 13 WHITE STA 105.6	PSIA	3.97180	14.7100	FW	1.92100	0	5.92
P179	4	13	1015	ABS PRESS 14 WHITE STA 105.6	PSIA	4.26332	14.7100	FW	2.06200	0	5.92
P180	4	14	1015	ABS PRESS 4 WHITE STA 228	PSIA	4.89806	14.7100	FW	2.37300	0	5.93
P181	4	15	1015	ABS PRESS 5 WHITE STA 228	PSIA	11.4562	14.7100	FO	2.21100	0	5.93
P182	4	16	1015	ABS PRESS 6 WHITE STA 228	PSIA	14.1091	14.7100	FO	2.72300	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
L612	5	FM	944	NO. 3 MICROPHONE - AFT,LT ELEV	P/R	0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V151	6	01	515	HWA SEGMENT 1 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V152	6	02	515	HWA SEGMENT 2 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V153	6	03	515	HWA SEGMENT 3 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V154	6	04	515	HWA SEGMENT 4 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V155	6	05	515	HWA SEGMENT 5 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V156	6	06	515	HWA SEGMENT 6 RED STA 105.6	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P157	6	07	1015	ABS PRESS 1 WHITE STA 105.6	PSIA	13.5101	14.7100	FO	2.60300	0	5.92
P158	6	08	1015	ABS PRESS 2 WHITE STA 105.6	PSIA	13.7073	14.7100	FO	2.64100	0	5.92
P159	6	09	1015	ABS PRESS 3 WHITE STA 105.6	PSIA	5.03039	14.7100	FW	2.43300	0	5.92
P160	6	10	1015	ABS PRESS 4 WHITE STA 105.6	PSIA	2.74658	14.7100	FB	2.64800	0	5.92
P161	6	11	1015	ABS PRESS 5 WHITE STA 105.6	PSIA	2.07550	14.7100	FB	2.00100	0	5.92
P162	6	12	1015	ABS PRESS 6 WHITE STA 105.6	PSIA	3.43945	14.7100	FB	3.31600	0	5.92
P163	6	13	1015	ABS PRESS 7 WHITE STA 105.6	PSIA	2.21345	14.7100	FB	2.13400	0	5.92
P164	6	14	1015	ABS PRESS 1 WHITE STA 228	PSIA	15.4564	14.7100	FO	2.97800	0	5.92
P165	6	15	1015	ABS PRESS 2 WHITE STA 228	PSIA	15.1813	14.7100	FO	2.92500	0	5.92
P166	6	16	1015	ABS PRESS 3 WHITE STA 228	PSIA	12.9444	14.7100	FO	2.49400	0	5.92
L613	7	FM	944	NO. 4 MICROPHONE - AFT,RT ELEV	P/R	0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V183	8	01	515	HWA SEGMENT 3 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V184	8	02	515	HWA SEGMENT 4 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V185	8	03	515	HWA SEGMENT 5 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V186	8	04	515	HWA SEGMENT 6 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
D111	8	05	1	MR HUB PITCH ANGLE	DEG	19.4754	8.91700	FY	1.87000	0	5.92
D110	8	06	59	MR HUB FLAPPING ANGLE	DEG	21.4447	0.000000	FY	2.07300	0	5.96
P187	8	07	1015	ABS PRESS 1 WHITE STA 158.4	PSIA	5.40462	14.7100	FW	2.61400	0	5.92
P188	8	08	1015	ABS PRESS 2 WHITE STA 158.4	PSIA	14.5014	14.7100	FO	2.79400	0	5.92
P189	8	09	1015	ABS PRESS 3 WHITE STA 158.4	PSIA	13.8371	14.7100	FO	2.66600	0	5.92
P190	8	10	1015	ABS PRESS 4 WHITE STA 158.4	PSIA	5.38601	14.7100	FW	2.60500	0	5.92
P191	8	11	1015	ABS PRESS 5 WHITE STA 158.4	PSIA	5.22474	14.7100	FW	2.52700	0	5.92
P192	8	12	1015	ABS PRESS 6 WHITE STA 158.4	PSIA	5.89877	14.7100	FW	2.85300	0	5.92
P193	8	13	1015	ABS PRESS 7 WHITE STA 158.4	PSIA	6.09105	14.7100	FW	2.94600	0	5.92
P194	8	14	1015	ABS PRESS 7 WHITE STA 228	PSIA	12.1555	14.7100	FO	2.34200	0	5.92
P195	8	15	1015	ABS PRESS 8 WHITE STA 228	PSIA	14.3665	14.7100	FO	2.76800	0	5.92
P196	8	16	1015	ABS PRESS 9 WHITE STA 228	PSIA	6.03316	14.7100	FW	2.91800	0	5.92
L614	9	FM	1083	NO. 5 MICROPHONE - RIGHT WING	P/R	0.158489D+08	0.000000	XX	0.158489D+08	0	1.00
V816	10	01	515	HWA SEGMENT 13 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V817	10	02	515	HWA SEGMENT 14 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V818	10	03	515	HWA SEGMENT 15 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V819	10	04	515	HWA SEGMENT 16 RED STA 156.4	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V820	10	05	515	HWA SEGMENT 1 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V821	10	06	515	HWA SEGMENT 2 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P822	10	07	1015	ABS PRESS 15 WHITE STA 158.4	PSIA	4.04209	14.7100	FW	1.95500	0	5.92
P823	10	08	1015	ABS PRESS 16 WHITE STA 158.4	PSIA	2.95455	14.7100	FW	1.42900	0	5.92
P824	10	09	1015	ABS PRESS 17 WHITE STA 158.4	PSIA	5.78712	14.7100	FW	2.79900	0	5.92
P825	10	10	1015	ABS PRESS 18 WHITE STA 158.4	PSIA	5.69408	14.7100	FW	2.75400	0	5.92
P826	10	11	1015	ABS PRESS 19 WHITE STA 158.4	PSIA	4.27573	14.7100	FW	2.06800	0	5.92
P827	10	12	1015	ABS PRESS 20 WHITE STA 158.4	PSIA	5.89877	14.7100	FW	2.85300	0	5.92
P828	10	13	1015	ABS PRESS 1 WHITE STA 198	PSIA	15.5758	14.7100	FO	3.00100	0	5.92
P829	10	14	1015	ABS PRESS 13 WHITE STA 228	PSIA	5.83928	14.7100	FW	2.82900	0	5.93
P830	10	15	1015	ABS PRESS 14 WHITE STA 228	PSIA	9.86548	14.7100	FO	1.90400	0	5.93
P831	10	16	1015	ABS PRESS 15 WHITE STA 228	PSIA	4.69131	14.7100	FW	2.26900	0	5.92
V832	11	01	515	HWA SEGMENT 3 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V833	11	02	515	HWA SEGMENT 4 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V834	11	03	515	HWA SEGMENT 5 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V835	11	04	515	HWA SEGMENT 6 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
F104	11	05	1	MR WHT PITCH LINK AXIAL FORCE	LB	6835.73	0.000000	FW	3295.00	0	5.90
M107	11	06	355	MR MAST TORQUE	IN LB	415139.	0.000000	FY	39659.0	0	5.89
P836	11	07	1015	ABS PRESS 2 WHITE STA 198	PSIA	14.0880	14.7100	FO	2.69600	0	5.88
P837	11	08	1015	ABS PRESS 3 WHITE STA 198	PSIA	23.5400	14.7100	FY	2.24500	0	5.88
P838	11	09	1015	ABS PRESS 4 WHITE STA 198	PSIA	13.3146	14.7100	FO	2.54800	0	5.88
P839	11	10	1015	ABS PRESS 5 WHITE STA 198	PSIA	13.2362	14.7100	FO	2.53300	0	5.88
P840	11	11	1015	ABS PRESS 6 WHITE STA 198	PSIA	15.1435	14.7100	FO	2.89800	0	5.88
P841	11	12	1015	ABS PRESS 7 WHITE STA 198	PSIA	6.01800	14.7100	FW	2.89100	0	5.88
P842	11	13	1015	ABS PRESS 8 WHITE STA 198	PSIA	6.04506	14.7100	FW	2.90400	0	5.88
P843	11	14	1015	ABS PRESS 16 WHITE STA 228	PSIA	5.85147	14.7100	FW	2.81100	0	5.88
P844	11	15	1015	ABS PRESS 17 WHITE STA 228	PSIA	12.4263	14.7100	FO	2.37800	0	5.88
P845	11	16	1015	ABS PRESS 18 WHITE STA 228	PSIA	14.0357	14.7100	FO	2.68600	0	5.88
V846	12	01	515	HWA SEGMENT 7 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V847	12	02	515	HWA SEGMENT 8 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V848	12	03	515	HWA SEGMENT 9 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V849	12	04	515	HWA SEGMENT 10 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V850	12	05	515	HWA SEGMENT 11 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V851	12	06	515	HWA SEGMENT 12 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P852	12	07	1015	ABS PRESS 9 WHITE STA 198	PSIA	5.88263	14.7100	FW	2.85000	0	5.93
P853	12	08	1015	ABS PRESS 10 WHITE STA 198	PSIA	5.46156	14.7100	FW	2.64600	0	5.93
P854	12	09	1015	ABS PRESS 11 WHITE STA 198	PSIA	3.48830	14.7100	FW	1.69000	0	5.93
P855	12	10	1015	ABS PRESS 12 WHITE STA 198	PSIA	5.61224	14.7100	FW	2.71900	0	5.93
P856	12	11	1015	ABS PRESS 13 WHITE STA 198	PSIA	5.78768	14.7100	FW	2.80400	0	5.93
P857	12	12	1015	ABS PRESS 14 WHITE STA 198	PSIA	6.29751	14.7100	FW	3.05100	0	5.93

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P858	12	13	1015	ABS PRESS 15 WHITE STA 198	PSIA	29.0079	14.7100	FY	2.79000	0	5.93
P859	12	14	1015	ABS PRESS 19 WHITE STA 228	PSIA	15.6532	14.7100	FO	3.02100	0	5.93
P860	12	15	1015	ABS PRESS 20 WHITE STA 228	PSIA	9.13490	14.7100	FO	1.76300	0	5.93
P861	12	16	1015	ABS PRESS 21 WHITE STA 228	PSIA	8.41468	14.7100	FO	1.62400	0	5.93
R992	13	FM	583	AZIMUTH M/R & T/R COMBINED	11/REV	1.00000	0.000000	XX	1.00000	0	1.00
V862	15	01	515	HWA SEGMENT 13 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V863	15	02	515	HWA SEGMENT 14 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V864	15	03	515	HWA SEGMENT 15 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V865	15	04	515	HWA SEGMENT 16 RED STA 198	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V866	15	05	515	HWA SEGMENT 1 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V867	15	06	515	HWA SEGMENT 2 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P868	15	07	1015	ABS PRESS 16 WHITE STA 198	PSIA	12.6531	14.7100	FO	2.44200	0	5.93
P869	15	08	1015	ABS PRESS 17 WHITE STA 198	PSIA	14.3526	14.7100	FO	2.77000	0	5.93
P870	15	09	1015	ABS PRESS 18 WHITE STA 198	PSIA	3.48830	14.7100	FW	1.69000	0	5.93
P871	15	10	1015	ABS PRESS 19 WHITE STA 198	PSIA	3.92382	14.7100	FW	1.90100	0	5.93
P872	15	11	1015	ABS PRESS 20 WHITE STA 198	PSIA	2.87939	14.7100	FW	1.39500	0	5.93
P873	15	12	1015	ABS PRESS 21 WHITE STA 198	PSIA	4.47493	14.7100	FW	2.16800	0	5.93
P874	15	13	1015	ABS PRESS 22 WHITE STA 198	PSIA	4.74326	14.7100	FW	2.29800	0	5.93
P875	15	14	1015	ABS PRESS 22 WHITE STA 228	PSIA	5.42440	14.7100	FW	2.62800	0	5.93
P876	15	15	1015	ABS PRESS 23 WHITE STA 228	PSIA	3.76282	14.7100	FW	1.82300	0	5.93
P877	15	16	1015	ABS PRESS 24 WHITE STA 228	PSIA	3.87428	14.7100	FW	1.87700	0	5.93
V878	16	01	515	HWA SEGMENT 3 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V879	16	02	515	HWA SEGMENT 4 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V880	16	03	515	HWA SEGMENT 5 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V881	16	04	515	HWA SEGMENT 6 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B882	16	05	1	MR MAST PARA BEND STA 6.5	IN LB	26130.6	0.000000	FB	25065.0	0	5.89
B883	16	06	1	MR MAST PERP BEND STA 5.0	IN LB	26753.0	0.000000	FB	25662.0	0	5.89
P884	16	07	1015	ABS PRESS 23 WHITE STA 198	PSIA	3.50275	14.7100	FW	1.69700	0	5.93
P885	16	08	1015	ABS PRESS 24 WHITE STA 198	PSIA	4.11784	14.7100	FW	1.99500	0	5.93
B116	16	09	515	MR PITCH HORM BM BEND STA 4	IN LB	33190.9	0.000000	FW	16026.0	0	5.91
B117	16	10	515	MR PITCH HORM BM BEND STA 16	IN LB	79912.1	0.000000	FW	38585.0	0	5.91
B118	16	11	59	MR RED GRIP BM BEND STA 37.5	IN LB	204274.	0.000000	FW	98799.0	0	5.92
A889	16	12	515	MR RED YOKE BM VIBR STA 3.5	G	15.0620	1.00000	FO	2.90200	0	5.92
A890	16	13	515	MR RED YOKE BM VIBR STA 11	G	13.6450	1.00000	FO	2.62900	0	5.92
P891	16	14	1015	ABS PRESS 25 WHITE STA 228	PSIA	3.79584	14.7100	FW	1.83900	0	5.93
P892	16	15	1015	ABS PRESS 26 WHITE STA 228	PSIA	5.67416	14.7100	FW	2.74900	0	5.93
P893	16	16	1015	ABS PRESS 27 WHITE STA 228	PSIA	4.17151	14.7100	FW	2.02100	0	5.93
V894	17	01	515	HWA SEGMENT 7 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V895	17	02	515	HWA SEGMENT 8 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V896	17	03	515	HWA SEGMENT 9 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V897	17	04	515	HWA SEGMENT 10 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V898	17	05	515	HWA SEGMENT 11 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V899	17	06	515	HWA SEGMENT 12 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A900	17	07	320	MR RED GRIP CH VIBR STA 37.5	G	13.0118	0.000000	FO	2.50700	0	5.92
A901	17	08	1	MR RED YK EXT BM VIBR STA 16	G	25.0160	1.00000	FY	2.40200	0	5.92
A902	17	09	1	MR RED GRIP BM VIBR STA 37.5	G	27.1198	0.000000	FY	2.60400	0	5.92
V015	17	10	474	VOLTAGE MONITOR - B	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
V016	17	11	474	VOLTAGE MONITOR - A	VOLTS	6.87952	6.00000	BB	0.138000	0	6.00
A905	17	12	320	MR RED YOKE CH VIBR STA 3.5	G	12.1503	0.000000	FO	2.34100	0	5.92
M906	17	13	1	MR RED YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
P907	17	14	1015	ABS PRESS 28 WHITE STA 228	PSIA	5.53695	14.7100	FW	2.67800	0	5.92
P908	17	15	1015	ABS PRESS 1 WHITE STA 252	PSIA	13.5931	14.7100	FO	2.61900	0	5.92
P909	17	16	1015	ABS PRESS 2 WHITE STA 252	PSIA	13.3233	14.7100	FO	2.56700	0	5.92
V910	18	01	515	HWA SEGMENT 13 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V911	18	02	515	HWA SEGMENT 14 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V912	18	03	515	HWA SEGMENT 15 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V913	18	04	515	HWA SEGMENT 16 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V914	18	05	515	HWA SEGMENT 17 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V915	18	06	515	HWA SEGMENT 18 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B916	18	07	320	MR WHITE YOKE BM BEND STA 6	IN LB	75617.2	-41158.0	FO	14520.0	0	5.90
B917	18	08	1	MR WHITE YOKE CH BEND STA 6	IN LB	397761.	0.000000	FB	382188.	0	5.90
M918	18	09	1	MR WHITE YOKE TORSION STA 6	% FS	60.0019	50.0000	FB	58.6300	0	6.00
B108	18	10	1	MR MAST PARA BEND STA 18.5	IN LB	25787.6	0.000000	FB	24736.0	0	5.89
B127	18	11	509	MR RED BLADE CH BEND STA 81.5	IN LB	276005.	0.000000	FW	132816.	0	5.89
B113	18	12	1	MR RED YOKE CH BEND STA 6	IN LB	439010.	0.000000	FB	423252.	0	5.92
B109	18	13	1	MR MAST PEPP BEND STA 18.5	IN LB	25877.3	0.000000	FB	24822.0	0	5.89
P919	18	14	1015	ABS PRESS 3 WHITE STA 252	PSIA	12.0925	14.7100	FO	2.32200	0	5.90
P920	18	15	1015	ABS PRESS 4 WHITE STA 252	PSIA	12.8320	14.7100	FO	2.46400	0	5.90
P921	18	16	1015	ABS PRESS 5 WHITE STA 252	PSIA	13.9986	14.7100	FO	2.68800	0	5.90
V922	19	01	515	HWA SEGMENT 19 RED STA 228	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V923	19	02	515	HWA SEGMENT 1 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V924	19	03	515	HWA SEGMENT 2 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V925	19	04	515	HWA SEGMENT 3 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B124	19	05	320	MR RED BLADE BM BEND STA 212.3	IN LB	35974.8	-1729.00	FW	17282.0	0	5.88
B128	19	06	320	MR RED BLADE BM BEND STA 103	IN LB	44392.9	-14425.0	FW	21326.0	0	5.88
B130	19	07	515	MR RED BLADE BM BEND STA 155.8	IN LB	32710.8	-7330.00	FW	15714.0	0	5.88
B132	19	08	320	MR RED BLADE BM BEND STA 184.8	IN LB	34719.6	-3995.00	FW	16679.0	0	5.88
B134	19	09	320	MR RED BLADE BM BEND STA 238.1	IN LB	17980.5	-429.000	FB	17218.0	0	5.88
B125	19	10	1	MR RED BLADE CH BEND STA 212.3	IN LB	108552.	0.000000	FB	103949.	0	5.88
B129	19	11	1	MR RED BLADE CH BEND STA 103	IN LB	160374.	0.000000	FB	153573.	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
B136	19	12	607	MR RED BLADE CH BEND STA 155.8	IN LB	254846.	0.000000	FW	122426.	0	5.88
B133	19	13	1	MR RED BLADE CH BEND STA 184.8	IN LB	54581.1	0.000000	FR	104268.	0	5.88
P926	19	14	1015	ABS PRESS 6 WHITE STA 252	PSIA	13.1861	14.7100	FO	2.53200	0	5.90
P927	19	15	1015	ABS PRESS 7 WHITE STA 252	PSIA	13.3788	14.7100	FO	2.56900	0	5.90
P928	19	16	1015	ABS PRESS 8 WHITE STA 252	PSIA	15.0505	14.7100	FO	2.89000	0	5.90
V929	20	01	515	HWA SEGMENT 4 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V930	20	02	515	HWA SEGMENT 5 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V931	20	03	515	HWA SEGMENT 6 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V932	20	04	515	HWA SEGMENT 7 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V933	20	05	515	HWA SEGMENT 8 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V934	20	06	515	HWA SEGMENT 9 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
B135	20	07	472	MR RED BLADE CH BEND STA 238.1	IN LB	163054.	0.000000	FB	156670.	0	5.90
M935	20	08	1	MR RED BLADE TORSION STA 132	IN LB	17198.3	0.000000	FB	16525.0	0	5.90
M936	20	09	1	MR RED BLADE TORSION STA 184.8	IN LB	23858.1	0.000000	FB	22924.0	0	5.90
M937	20	10	1	MR RED BLADE TORSION STA 238.2	IN LB	10416.2	0.000000	FR	19966.0	0	5.90
A938	20	11	1	MR RED BLADE BM VIBR STA 60	G	31.1304	1.00000	FY	2.97900	0	5.90
A939	20	12	1	MR RED BLADE BM VIBR STA 81.5	G	28.0268	1.00000	FY	2.68200	0	5.90
A940	20	13	1	MR RED BLADE BM VIBR STA 103	G	44.8327	1.00000	FG	2.14600	0	5.90
P941	20	14	1015	ABS PRESS 9 WHITE STA 252	PSIA	5.09449	14.7100	FW	2.46400	0	5.92
P942	20	15	1015	ABS PRESS 10 WHITE STA 252	PSIA	4.80709	14.7100	FW	2.32500	0	5.92
P943	20	16	1015	ABS PRESS 11 WHITE STA 252	PSIA	5.97734	14.7100	FW	2.89100	0	5.92
V944	21	01	515	HWA SEGMENT 10 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V945	21	02	515	HWA SEGMENT 11 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V946	21	03	515	HWA SEGMENT 12 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V947	21	04	515	HWA SEGMENT 13 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V948	21	05	515	HWA SEGMENT 14 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V949	21	06	515	HWA SEGMENT 15 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
A950	21	07	515	MR RED BLADE BM VIBR STA 132	G	120.301	1.00000	BB	2.38100	0	5.92
A951	21	08	515	MR RED BLADE BM VIBR STA 155.8	G	111.711	1.00000	BB	2.21100	0	5.92
A952	21	09	515	MR RED BLADE BM VIBR STA 184.8	G	107.669	1.00000	BB	2.13100	0	5.92
A953	21	10	515	MR RED BLADE BM VIBR STA 238.1	G	110.246	1.00000	BB	2.18200	0	5.92
A954	21	11	1	MR RED BLADE BM VIBR STA 263	G	43.0156	1.00000	FG	2.06600	0	5.92
A955	21	12	320	MR RED BLADE CH VIBR STA 60	G	13.1935	0.000000	FO	2.54200	0	5.92
A956	21	13	320	MR RED BLADE CH VIBR STA 81.5	G	11.6728	0.000000	FO	2.24900	0	5.92
P957	21	14	1015	ABS PRESS 12 WHITE STA 252	PSIA	5.34259	14.7100	FW	2.58400	0	5.92
P958	21	15	1015	ABS PRESS 13 WHITE STA 252	PSIA	4.55899	14.7100	FW	2.20500	0	5.92
P959	21	16	1015	ABS PRESS 14 WHITE STA 252	PSIA	6.01662	14.7100	FW	2.91000	0	5.92
V960	22	01	515	HWA SEGMENT 16 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V961	22	02	515	HWA SEGMENT 17 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
V962	22	03	515	HWA SEGMENT 18 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V963	22	04	515	HWA SEGMENT 19 RED STA 252	% FS	60.0064	40.0000	FG	2.92100	0	6.00
P964	22	05	385	BL BUTTON 4-0 RED STA 252	PSI	24.8189	0.000000	FY	2.37100	0	5.89
P965	22	06	1	BL BUTTON 5-I RED STA 252	PSI	12.9216	0.000000	FO	2.47700	0	5.89
P966	22	07	1	BL BUTTON 5-0 RED STA 252	PSI	12.3008	0.000000	FO	2.35800	0	5.89
A967	22	08	320	MR RED BLADE CH VIBR STA 103	G	22.4323	0.000000	FY	2.14300	0	5.89
A968	22	09	320	MR RED BLADE CH VIBR STA 132	G	23.7198	0.000000	FY	2.26600	0	5.89
A969	22	10	320	MR RED BLADE CH VIBR STA 155.8	G	22.8091	0.000000	FY	2.17900	0	5.89
A970	22	11	320	MR RED BLADE CH VIBR STA 184.8	G	22.9452	0.000000	FY	2.19200	0	5.89
A971	22	12	320	MR RED BLADE CH VIBR STA 238.2	G	21.6577	0.000000	FY	2.06900	0	5.89
A972	22	13	320	MR RED BLADE CH VIBR STA 263	G	21.3855	0.000000	FY	2.04300	0	5.89
P973	22	14	1015	ABS PRESS 15 WHITE STA 252	PSIA	13.2470	14.7100	FO	2.54800	0	5.91
P974	22	15	1015	ABS PRESS 16 WHITE STA 252	PSIA	13.6265	14.7100	FO	2.62100	0	5.91
P975	22	16	1015	ABS PRESS 17 WHITE STA 252	PSIA	9.08783	14.7100	FO	1.74800	0	5.91
P976	23	01	1	BL BUTTON 4-I RED STA 228	PSI	12.6816	0.000000	FO	2.43100	0	5.89
P977	23	02	1	BL BUTTON 4-0 RED STA 228	PSI	12.4573	0.000000	FO	2.38800	0	5.89
P978	23	03	1	BL BUTTON 5-I RED STA 228	PSI	11.3775	0.000000	FO	2.18100	0	5.89
P979	23	04	1	BL BUTTON 5-0 RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P980	23	05	515	BL BUTTON 6-I RED STA 228	PSI	12.7599	0.000000	FO	2.44600	0	5.89
P981	23	06	515	BL BUTTON 6-0 RED STA 228	PSI	12.6712	0.000000	FO	2.42900	0	5.89
P982	23	07	1	BL BUTTON 1-I RED STA 252	PSI	13.8502	0.000000	FO	2.65500	0	5.89
P983	23	08	1	BL BUTTON 1-0 RED STA 252	PSI	13.3598	0.000000	FO	2.56100	0	5.89
P984	23	09	1	BL BUTTON 2-I RED STA 252	PSI	13.2711	0.000000	FO	2.54400	0	5.89
P985	23	10	1	BL BUTTON 2-0 RED STA 252	PSI	13.4068	0.000000	FO	2.57000	0	5.89
P986	23	11	1	BL BUTTON 3-I RED STA 252	PSI	12.1078	0.000000	FO	2.32100	0	5.89
P987	23	12	1	BL BUTTON 3-0 RED STA 252	PSI	14.3145	0.000000	FO	2.74400	0	5.89
P988	23	13	1	BL BUTTON 4-I RED STA 252	PSI	14.2675	0.000000	FO	2.73500	0	5.89
P989	23	14	1015	ABS PRESS 18 WHITE STA 252	PSIA	13.0287	14.7100	FO	2.50600	0	5.91
P990	23	15	1015	ABS PRESS 19 WHITE STA 252	PSIA	10.3044	14.7100	FO	1.98200	0	5.91
P991	23	16	1015	ABS PRESS 20 WHITE STA 252	PSIA	4.36995	14.7100	FW	2.11000	0	5.91
P725	24	01	1	BL BUTTON 3-0 RED STA 198	PSI	5.73282	0.000000	FW	2.75400	0	5.88
P726	24	02	1	BL BUTTON 4-I RED STA 198	PSI	5.89310	0.000000	FW	2.83100	0	5.88
P727	24	03	1	BL BUTTON 4-0 RED STA 198	PSI	6.21992	0.000000	FW	2.98800	0	5.88
P728	24	04	1	BL BUTTON 5-I RED STA 198	PSI	5.31857	0.000000	FW	2.55500	0	5.88
P729	24	05	834	BL BUTTON 5-0 RED STA 198	PSID	27.7761	0.000000	FY	2.64900	0	5.88
P730	24	06	1	BL BUTTON 6-I RED STA 198	PSI	4.87727	0.000000	FW	2.34300	0	5.88
P731	24	07	1	BL BUTTON 6-0 RED STA 198	PSI	5.14788	0.000000	FW	2.47300	0	5.88
P732	24	08	1	BL BUTTON 1-I RED STA 228	PSI	13.1683	0.000000	FO	2.52000	0	5.88
P733	24	09	1	BL BUTTON 1-0 RED STA 228	PSI	14.0618	0.000000	FO	2.69100	0	5.88
P734	24	10	1	BL BUTTON 2-I RED STA 228	PSI	13.5811	0.000000	FO	2.59900	0	5.88
P735	24	11	1	BL BUTTON 2-0 RED STA 228	PSI	13.7274	0.000000	FO	2.62700	0	5.88
P736	24	12	1	BL BUTTON 3-I RED STA 228	PSI	13.2310	0.000000	FO	2.53200	0	5.88

TABLE B.6 (CONTINUED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
P737	24	13	1	BL BUTTON 3-O RED STA 228	PSI	14.7621	0.000000	FO	2.82500	0	5.88
P738	24	14	1015	ABS PRESS 21 WHITE STA 252	PSIA	5.35033	14.7100	FW	2.57900	0	5.90
P739	24	15	1015	ABS PRESS 22 WHITE STA 252	PSIA	3.88568	14.7100	FW	1.87300	0	5.90
P740	24	16	1015	ABS PRESS 23 WHITE STA 252	PSIA	4.48316	14.7100	FW	2.16100	0	5.90
P742	25	01	355	BL BUTTON 3-O RED STA 156.4	PSI	7.79968	0.000000	FO	1.48500	0	5.85
P741	25	02	355	BL BUTTON 3-I RED STA 156.4	PSI	11.0088	0.000000	FO	2.09600	0	5.85
P743	25	03	1	BL BUTTON 4-I RED STA 156.4	PSI	12.5478	0.000000	FO	2.38900	0	5.85
P744	25	04	1	BL BUTTON 4-O RED STA 156.4	PSI	11.4080	0.000000	FO	2.17200	0	5.85
P745	25	05	1	BL BUTTON 5-I RED STA 156.4	PSI	8.08855	0.000000	FO	1.54000	0	5.85
P746	25	06	1	BL BUTTON 5-O RED STA 156.4	PSI	9.39638	0.000000	FO	1.78900	0	5.85
P747	25	07	1	BL BUTTON 6-I RED STA 156.4	PSI	9.60647	0.000000	FO	1.82900	0	5.85
P748	25	08	320	BL BUTTON 6-O RED STA 156.4	PSI	4.30178	0.000000	FW	2.05600	0	5.85
P750	25	09	320	BL BUTTON 1-I RED STA 198	PSI	13.3146	0.000000	FO	2.53500	0	5.85
P751	25	10	320	BL BUTTON 1-O RED STA 198	PSI	12.9679	0.000000	FO	2.46900	0	5.85
P752	25	11	1	BL BUTTON 2-I RED STA 198	PSI	5.30609	0.000000	FW	2.53600	0	5.85
P753	25	12	320	BL BUTTON 2-O RED STA 198	PSI	13.0940	0.000000	FO	2.49300	0	5.85
P754	25	13	1	BL BUTTON 3-I RED STA 198	PSI	7.35655	0.000000	FW	3.51600	0	5.85
P755	25	14	1	BL BUTTON 6-I RED STA 252	PSI	12.9102	0.000000	FO	2.45800	0	5.85
P756	25	15	1	BL BUTTON 6-O RED STA 252	PSI	12.6265	0.000000	FO	2.40400	0	5.85
P757	25	16	1015	ABS PRESS 24 WHITE STA 252	PSIA	3.74158	14.7100	FB	3.58900	0	5.89
P758	26	01	320	BL BUTTON 1-I RED STA 105.6	PSI	10.5346	0.000000	FO	2.01600	0	5.88
P759	26	02	1	BL BUTTON 1-O RED STA 105.6	PSI	3.43886	0.000000	FW	1.65200	0	5.88
P760	26	03	1	BL BUTTON 2-I RED STA 105.6	PSI	3.72404	0.000000	FW	1.78900	0	5.88
P761	26	04	1	BL BUTTON 2-O RED STA 105.6	PSI	2.83518	0.000000	FW	1.36200	0	5.88
P762	26	05	1	BL BUTTON 3-I RED STA 105.6	PSI	3.21404	0.000000	FW	1.54400	0	5.88
P763	26	06	1	BL BUTTON 3-O RED STA 105.6	PSI	3.60331	0.000000	FW	1.73100	0	5.88
P764	26	07	1	BL BUTTON 4-I RED STA 105.6	PSI	4.14037	0.000000	FW	1.98900	0	5.88
P765	26	08	1	BL BUTTON 4-O RED STA 105.6	PSI	4.12788	0.000000	FW	1.98300	0	5.88
P766	26	09	1	BL BUTTON 5-I RED STA 105.6	PSI	3.09122	0.000000	FW	1.48500	0	5.88
P767	26	10	1	BL BUTTON 5-O RED STA 105.6	PSI	4.09457	0.000000	FW	1.96700	0	5.88
P768	26	11	1	BL BUTTON 6-I RED STA 105.6	PSI	3.70531	0.000000	FW	1.78000	0	5.88
P769	26	12	1	BL BUTTON 6-O RED STA 105.6	PSI	4.11955	0.000000	FW	1.97900	0	5.88
P770	26	13	1	BL BUTTON 1-I RED STA 156.4	PSI	8.09432	0.000000	FO	1.54900	0	5.88
P771	26	14	1	BL BUTTON 1-O RED STA 156.4	PSI	8.73705	0.000000	FO	1.67200	0	5.88
P772	26	15	1	BL BUTTON 2-I RED STA 156.4	PSI	15.3996	0.000000	FO	2.94700	0	5.88
P773	26	16	1	BL BUTTON 2-O RED STA 156.4	PSI	9.77170	0.000000	FO	1.87000	0	5.88
V800	27	01	768	HWA SEGMENT 7 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V801	27	02	768	HWA SEGMENT 8 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V802	27	03	768	HWA SEGMENT 9 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V803	27	04	768	HWA SEGMENT 10 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00

TABLE B.6 (CONCLUDED)

ITEM	TK	BD	EFFECTIVE FIRST REC	DESCRIPTION	UNITS	DELTA CAL	REF VALUE	MODULE CODE	UNITY CAL	BRIDGE RESIST	VAT
V804	27	05	768	HWA SEGMENT 11 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
V805	27	06	768	HWA SEGMENT 12 RED STA 156.4	% FS	60.0002	40.0000	FG	2.92070	0	6.00
P806	27	07	1015	ABS PRESS 8 WHITE STA 158.4	PSIA	6.20050	14.7100	FW	3.00400	0	5.93
P807	27	08	1015	ABS PRESS 9 WHITE STA 158.4	PSIA	5.62462	14.7100	FW	2.72500	0	5.93
P808	27	09	1015	ABS PRESS 10 WHITE STA 158.4	PSIA	5.64113	14.7100	FW	2.73300	0	5.93
P809	27	10	1015	ABS PRESS 11 WHITE STA 158.4	PSIA	6.03936	14.7100	FW	2.92100	0	5.92
P810	27	11	1015	ABS PRESS 12 WHITE STA 158.4	PSIA	4.55072	14.7100	FW	2.20100	0	5.92
P811	27	12	1015	ABS PRESS 13 WHITE STA 158.4	PSIA	5.38808	14.7100	FW	2.60600	0	5.92
P812	27	13	1015	ABS PRESS 14 WHITE STA 158.4	PSIA	5.90704	14.7100	FW	2.85700	0	5.92
P813	27	14	1015	ABS PRESS 10 WHITE STA 228	PSIA	5.05906	14.7100	FW	2.45100	0	5.93
P814	27	15	1015	ABS PRESS 11 WHITE STA 228	PSIA	5.96519	14.7100	FW	2.89000	0	5.93
P815	27	16	1015	ABS PRESS 12 WHITE STA 228	PSIA	5.32326	14.7100	FW	2.57900	0	5.93
R029	28	FM	1	MR AZIMUTH (512/REV)	512/R	1.00000	0.000000	XX	1.00000	0	1.00

TABLE B.7 CALIBRATION RECORD INFORMATION

FLIGHT NUMBER	'P' CAL RECORD NUMBER	ANALOG TAPE SPEED	MICROPHONE CALIBRATION RECORD NUMBER*
		INCHES/SEC	
22A	364	15	
31A	534	15	
32A	553	15	Microphones not
35A,B,C	609	15	installed for
36A	634	15	these flights
37A,B,C,D	674	15	
43A	850	30	851/852/853/854/855
44C	873	30	875/876/877/878/879
45A,B,C,D	1016	30	1017/1018/1019/1020/1021
45A,B,C,D		(Post-flight CALS)	1112/1113/1114/1115/1116

*Sequence of record numbers is: Nose, Left wing, Left tail, Right tail, Right wing

APPENDIX C

FLIGHT SIMULATION ANALYSIS AND CORRELATION

C.1 ANALYTICAL MODEL DESCRIPTION

Level flight and maneuvers of the instrumented AH-1G helicopter were simulated using the current production version of the C81 computer program, AGAJ7407. C81 is a general-purpose flight simulation analysis that uses the modal technique for dynamic response calculations. A description of this analysis and an input guide to the computer program are given in Reference 11. The analysis contains the following options that were used in the calculations: unsteady aerodynamics and a simple pylon dynamic model. The unsteady aerodynamics representation used in the calculations, UNSAN, is based upon the work reported in Reference 12. The main rotor pylon is modeled as a simple spring-mass-damper, single-degree-of-freedom system. The inputs to these equations were obtained from an AH-1G NASTRAN model. These inputs are compared in Reference 10 to similar inputs obtained from shake test data. Additional options, which currently are not operational but will be discussed later, are rotor-induced velocity distribution tables and availability of more than six modes to model blade elasticity.

C.2 MODEL SIMULATION

The inputs to C81 that describe the AH-1G helicopter are listed in Tables C.3 through C.7. Tables C.3 through C.7 and Figures C.1 through C.20 follow the text. Tables C.3 through C.7 also list the input additions and changes necessary for the HOG configuration calculations and for the clean wing configuration maneuver calculations. The C81 model for the instrumented AH-1G is essentially the same as that for the standard AH-1G given in Reference 13. The difference from this standard model are:

- The main rotor chord is extended to 28.625 inches.

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[10]White, op.cit.

[11]Davis, op.cit.

[12]Gormont, op.cit.

[13]Van Gaasbeek, op.cit.

- The main rotor hub flat plate drag is increased by 0.5 sq. ft. to 4.0 sq. ft. due to the multiplexing cannister.

- A constant increment of .0025 is added to the airfoil drag coefficient table.

- The blade bending modes correspond to those of the actual instrumented rotor.

- The stores group models the actual dummy cannisters used during the operational loads survey flight test.

- The inplane mobility at the hub is simulated through the pylon equations. The coupling of control positions with pylon movement is also included with the pylon inputs. The AH-1G helicopter has a slightly overcompensated space-stabilized swashplate.

- The control riggings are slightly different.

The blade bending modes and associated natural frequencies used in C81 were computed by the Myklestad program (DF9158), Reference 16. Cantilevered blade modes are used in conjunction with the pylon equations. The computed coupled natural frequencies and measured harmonic responses during ground runs were discussed in Section 4.1 and shown in Figure 26. The measured and computed frequencies are in excellent agreement up to 5/rev. The predicted 7/rev cyclic mode is high; however, this does not affect the C81 flight simulation calculations because of the current limitation of 6 modes. This includes only frequencies below approximately 4.7/rev. The rotor blade bending modes used in the calculations are the first three collective modes and first three cyclic modes. These modes were computed for the normal operating rpm (324) and a root collective of 14 degrees.

C.3 FLIGHT SIMULATION

Performance and loads were calculated for two level flight speed sweeps and three maneuvers. A general description is given in Table C.1 of the flight conditions and helicopter configurations for which test theory comparisons were made.

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[16]Bennett, R. L., "Digital Computer Program DF1758 Fully Coupled Natural Frequencies and Mode Shapes of a Helicopter Rotor Blade," Bell Helicopter Company Report 299-099-724, Fort Worth, Texas, March 1975.

TABLE C.1 FLIGHT CONDITIONS AND HELICOPTER CONFIGURATIONS FOR TEST-THEORY COMPARISONS

Flt.	Ctr.	Conf.	G.W. (lb)	CG Sta. (in.)	Den. Alt. (ft)	OAT (^{o}C)	Flight Condition
35A	610-615	Clean wing	8320	200.6 (aft)	4341	25.8	Level flight speed sweep (66.7-144.8 kn) $.5V_H$ - V_H
36A	636-640	HOG	9070	196.2 (Neutral)	4153	26.3	Level flight speed sweep (60.9-133.8 kn) $.5V_H$ - V_H
32	558	Clean wing	8400	196.7 (Neutral)	3177	27.5	Level left turn
32	561	Clean wing	8400	196.7	3166	28.2	Level right turn
32	562	Clean wing	8400	196.7	2160	27.6	Symmetric pullup

C.4 FORWARD FLIGHT

C.4.1 Performance

The C81-computed results are compared to the measured data for two level flight speed sweeps (refer to Table C.1). Comparisons of the performance data for both the clean wing and HOG configurations are shown in Figures C.1 and C.2, respectively. In general, the agreement between measured and computed data is good. The largest difference between these measured and calculated results is in the lateral cyclic stick positions, Figures C.1 and C.2. There is a difference of approximately 9 percent or 1.08 degrees. Figures C.1 and C.2 show an incongruous behavior of collective stick position with respect to main rotor blade angle. At low flight speeds, blade pitch is overpredicted slightly but the collective stick position is underpredicted. This was attributed to control system slop. The difference in these figures corresponds to an average collective stick slop of 1.6 degrees.

In order to obtain agreement between the measured and computed speed-power polars, an increment of .0025 was added to the 540 airfoil C_d tables. The increased airfoil thickness ratio and trailing edge cut-off should ideally cause only a slight increase to the airfoil drag. An increment of this magnitude cannot be attributed to these effects. The OLS speed-power polar was shown earlier to agree very well with the standard AH-1G data, Section 5.2.1. Therefore, the C_d increment is a correction to the standard 540 airfoil tables, at least for the C81 analysis and the conditions studied here, rather than any change to the fundamental aerodynamics. The magnitude of this correction is essentially a constant addition of 70 horsepower for all forward flight speeds.

C.4.2 Loads

Comparisons of the measured and computed overall oscillatory beamwise and chordwise bending moments yielded the same trends for the two level flight configurations, Figures C.3 and C.4. The oscillatory blade beamwise bending moments at low speeds, Figures C.3 and C.4, are in general overpredicted inboard and underpredicted outboard. At V_H, the beamwise bending moments agree very well at the lower speeds, but C81 increasingly underpredicted with increasing speed. Only the clean-wing configuration will be considered in subsequent level flight blade loads comparisons, since it is representative of the HOG configuration.

The trends with respect to speed, of the oscillatory beamwise and chordwise blade bending moments are shown in Figures C.5 and C.6, respectively. Again, the divergence with increasing speed is

shown. Figure C.7 shows that this divergence for the beamwise blade loads is primarily due to the underprediction of higher harmonic loading. This is also true for the chordwise blade loads, Figure C.8. The divergence of the chordwise comparison is almost entirely due to the dramatic increase of the measured 3/rev component and the failure of C81 to predict this phenomenon. Figures C.7a, C.7b, and C.7c show that the differences between measured and computed beamwise bending moments for the outboard portion of the blade are also a result of the underprediction of higher harmonic loadings. This is exhibited more clearly by spanwise plots of the blade load harmonics, Figures C.9 and C.10. In addition, the overprediction of the low speed, inboard beamwise loading is seen to be due to the 1/rev components, Figure C.9.

There are two apparent reasons why C81 underpredicted the higher harmonic rotor blade structural loading. First, harmonic load components in excess of the frequency limitation resulting from the use of a maximum of six bending modes (4.7/rev) can be significant, Figure C.11. These higher frequency modes can contribute heavily, especially to the outboard region of the blade, Figure C.11. Second, the current version of C81 lacks the higher harmonic airloads, which force the higher harmonic dynamic response.

Work is in progress to eliminate, or at least reduce, both of these problems. The C81 computer program is being updated to accommodate a maximum of 11 blade bending modes. And, an option is available in C81 for the input of rotor-induced velocity distribution tables. However, the use and implementation of these tables is in a developmental stage.

C.5 MANEUVERS

C81 was used to simulate three 8-second maneuvers (refer to Table C.1): (1) a 1.8-g symmetric pullup, (2) a 2.2-g level left turn, and (3) a 2.0-g level right turn. The simulation was accomplished by the input of stick rates with corresponding time frames (refer to Tables C.3 through C.7) in an effort to reproduce the body reference angular velocities and the cg vertical acceleration. Secondary monitoring variables in the simulation were the ship attitudes and control positions. The measured and computed ship attitudes shown in subsequent figures do not correspond exactly. The measured attitudes are measured by a body reference attitude gyro, while the plotted theoretical attitudes are Euler angles. Also, the measured and computed control positions will not necessarily correspond because of the unaccounted, unmeasured inputs to the flight control positions from the SCAS.

The C81 simulation of a maneuver with an elastic rotor is an iterative process. Control positions are specified through rate inputs. A corresponding maneuver is calculated and compared to the test data. Modifications to the control position rate inputs are made, and a new maneuver is calculated. This process is continued until the calculated maneuver sufficiently simulates the test data. In the case of the simulated left and right turns, it was necessary to control all four control positions. However, for the symmetric pullup it was necessary to control only the F/A cyclic stick position. Collective was held constant in the pullup, and the pedal and lateral cyclic position were controlled by the C81 autopilot.

Measured and computed time-history plots for the three maneuvers are shown in Figures C.12, C.14, and C.16. Each plot can be identified by a letter-dash number combination found along the vertical axis. The letter is followed by a "-1" for measured data and a "-2" for computed data. Measured and computed data appear on facing pages to facilitate comparison. In addition to the time-history comparisons, the rotor bending moments were harmonically analyzed at three time points for each maneuver. The time points correspond to one main rotor revolution at the following conditions: (1) minimum oscillatory vertical g-level, (2) maximum oscillatory vertical g-level, and (3) maximum mean vertical g-level. The times at which these conditions occur for each maneuver are listed in Table C.2 and are shown on each time-history plot. These times are derived from flight test data and applied to the computed time histories except for t_3 of the right turn.

TABLE C.2 HARMONIC ANALYSIS MANEUVER TIME POINTS

	Time Point		
	t_1(sec)	t_2(sec)	t_3(sec)
Maneuver	Min. Osc. Vert. g-level	Max. Osc. Vert g-level	Max. Mean Vert g-level
Sym. Pullup	7.45	4.45	2.6
Left Turn	0.0	6.8	5.2
Right Turn	0.0	2.2	4.1(test)/ 3.9(C81)

Comparisons of the measured and computed harmonic content of the rotor bending moments at selected radial stations for each maneuver are shown in Figures C.13, C.15, and C.17. The computed flight performance parameters used to monitor simulation generally agree very well with the measured data for all three maneuvers. Among the other computed performance parameters, the drop off in airspeed and main rotor hub flapping consistently exhibited excellent agreement, and the tail rotor mast torque agreed fairly well. The prediction of main rotor mast torque and engine rpm magnitudes was good; however, the predicted trends were poor.

The computed yaw and roll rates for the symmetric pullup, Figure C.12, oscillate about a mean value of zero. This oscillation is due to the lateral cyclic and pedal inputs from the C81 autopilot. The right-turn time-history plots of roll attitude and roll rate, Figures C.11b and C.11c, show that the helicopter at time equals zero had already entered the maneuver with a measured roll rate of 15 deg/sec, Figure C.16 (c-1), and roll angle of 15 degrees, Figure C.16 (b-1). It was necessary to add 1.4 seconds to the front of the C81 maneuver in order to simulate these entry conditions. This maneuver was stopped after 4 seconds (5.04 seconds with the added time preceding the maneuver), since the time points of interest, Table C.2, had been calculated in the first 4 seconds of this maneuver. Further results which could have been achieved did not warrant the additional effort needed to complete the full 8 seconds.

The trends of the computed beamwise bending moments for all three maneuvers agree very well with the measured data; however, the magnitudes are generally underpredicted. As was shown in the level flight comparisons, the magnitudes agree much better inboard since higher harmonic loading becomes less significant over the inboard portion of the blade. The trends of the computed and measured chordwise bending moment time histories range anywhere from good to poor with overall magnitudes underpredicted. Again, this is primarily due to the higher harmonic loading that is especially prevalent over the outboard portion of the rotor. This is shown not only in the character of the time-history traces, but also in the harmonic content of the bending moments at the three time points for each maneuver, Figures C.13, C.15, and C.17. The higher harmonic loading in both the beamwise and chordwise directions increases with spanwise distance from the center of rotation as shown in these harmonic analyses of the symmetric pullup time points, Figure C.13. In addition, the higher harmonic content is usually larger at time points t_2 (maximum oscillatory g level), Figure C.13b, and t_3 (maximum mean g level), Figure C.13c, than at t_1 (minimum oscillatory g level), Figure C.13a. These spanwise loading and g-level characteristics also apply to the left turn and right turn rotor loads, Figures C.15 and C.17, respectively.

The computed beamwise bending moment harmonic components, excluding the higher harmonics, generally agree well with the measured data for all three maneuvers, Figures C.13, C.15, and C.17. The computed chordwise bending harmonic components agree well with the test data for the minimum oscillatory g level time point, t_1, for all three cases. The chordwise components are underpredicted at time points t_2 and t_3 for the symmetric pullup and left turn. The poor agreement of the left turn chordwise time histories at the maximum mean g level, t_3, shown in Figures C.14s through C.14v, is a result of the large difference between the measured and computed 1/rev components, Figure C.15c. Contrary to the left-turn chordwise loading comparisons, the computed right-turn chordwise harmonics agree very well at t_3, Figure C.17b.

The cause of the peculiar left-turn computed response was investigated and found to be the result of the unsteady aerodynamics routine, UNSAN. An instability in the numerical analysis that computes pitch and plunge rates and accelerations caused a synthetic stall flutter at one half the azimuthal sample rate. This is clearly shown in the bounce between time points of the main rotor horsepower, Figure C.18. This bounce did not significantly affect the aerodynamic force amplitudes of interest; however, the phasing was changed so that the 1st inplane cyclic modal response was directly out of phase with the 'S-ing' mode inplane response. The net effect was the virtual elimination of the 1/rev inplane response. The maneuver computed using an alternative unsteady aerodynamics routine, BUNS (discussed in Reference 11), does not exhibit the bounce, Figure C.18, or the inverse synchronous phasing. Correspondingly, much better agreement with the measured loads data was attained, even though past studies have shown that BUNS is inferior to UNSAN in reproducing oscillatory airfoil test data. The chordwise bending moment time-history trends computed using BUNS agree well with the measured data, Figure C.19. The improved time-history agreement results from the improved prediction of 1/rev, Figure C.20. The UNSAN-related bounce and modal phase shifts were found to occur, also, in the computed data of the symmetric pullup and level right turn. However, the phase shift did not produce directly opposed phasing of the 1st inplane cyclic modal response with the 'S-ing' mode inplane response. Thus, the bounce and phase shift did not appear to significantly affect the reported analytical data for these maneuvers.

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[11]Davis, op.cit.

TABLE C.3 C81 INPUT PARAMETERS FOR FLIGHT 35A (CLEAN WING, 8320-LB GROSS WEIGHT, AFT C.G.)

BELL HELICOPTER COMPANY ROTORCRAFT FLIGHT SIMULATION PROGRAM AGAJ7407 COMPUTED 10/27/76

AH-1G WITH INSTRUMENTED MAIN ROTOR
FLIGHT 35A 8320# , 200.6
LEVEL FLIGHT SPEED SWEEP

INPUT DATA

PROGRAM LOGIC GROUP

0	1	6	0	0	2	0	1	-1	3	0	0	0	0
0	1	1	1	2	1	1	0	0	0	1	1	0	0
0	0	0	0	0	0	1	1	0	0	0	0	0	0

FUSELAGE GROUP

8320.000	200.0000	0.0	71.20000	200.0000	0.0	71.00000	
2600.000	12500.00	11000.00	947.0000	0.0	15.00000	35.00000	
-4.113799	0.0	0.0	0.0	0.0	0.0	-0.1044200E-01	
0.1794500E-01	0.2734770	-0.1902000E-02	0.7104996E-03	0.7482997E-02	-0.1530000E-03	0.3050000E-03	
5.500000	0.0	150.1000	84.70000	0.0	0.0	-0.2698200E-01	
0.4341300E-01	-0.7022095E-01	-0.1970000E-03	0.3780000E-03	0.1266100E-01	0.1000000E-04	0.6599999E-04	
-0.9006600	0.0	0.0	0.0	300.0000	0.0	0.4389170	
-0.7697695E-01	-4.844037	0.1390000E-01	-0.3010000E-02	-0.7651400E-01	0.1731000E-02	-0.3101000E-02	
0.0	11.76033	45.00000	0.3995340	0.4357100E-01	0.4103999E-03	-0.3099999E-04	
1.638453	0.4149800E-01	0.2351000E-02	-0.3571000E-02	-0.2769998E-03	0.2914300E-02	-0.4799999E-04	
0.0	-140.0000	45.00000	0.5349997E-02	-0.2207679	-0.1399700E-01	0.8119999E-03	
-4.299999	-0.4800000E-01	-0.4260000E-02	0.3611000E-02	-0.3549999E-04	-0.4042000E-02	-0.2020000E-03	
600.0000	0.0	0.0	-3.757113	0.9937799E-01	0.9264000E-02	-0.1040000E-02	
13.94102	0.1234000E-02	-0.3040000E-02	0.1731300E-01	0.2510000E-02	-0.3025000E-02	-0.1040000E-03	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	

RTR AERODYNAMIC GROUP

0.8400000	1.270000	1.299999	-0.7000000	0.0	0.0	0.7000000
0.9499997E-01	0.0	0.4750000E-01	0.0	0.9999998E-02	0.0	0.3000000E-04
0.4000000E-01	0.3400000	0.9333324E-01	1.000000	0.0	1.000000	0.5000000
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.2500000E-02	0.0
0.8400000	1.270000	1.299999	-0.7000000	0.0	0.0	0.7000000
0.9499997E-01	0.0	0.4750000E-01	0.0	0.9999998E-02	0.0	0.3000000E-04
0.4000000E-01	0.3400000	0.8999997E-01	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

MAIN ROTOR GROUP

4.000000	4.500000	0.0	22.00000	24.02200	-10.00000	12.00000
200.0000	0.0	152.8200	475.0000	1411.600	0.4410000E-01	0.0
3.000000	0.0	10000.00	0.0	1.000000	0.0	3.400000
2.750000	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	-9.066999	20.39999	0.0	0.0	0.0
0.0	200.0000	0.0	152.8200	4.000000	-0.2500000	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.32399	39.17499	5244.898	4.714999	-1.122199	0.0	0.0
107.6640	80.78249	4701.055	5.322000	0.0	-1.122199	0.0

TAIL ROTOR GROUP

2.000000	0.0	0.0	4.250000	6.410000	0.0	11.00000
520.7000	-14.85000	118.2700	14.96000	1.396000	0.2509990	0.0
0.0	0.0	10000.00	0.0	1.000000	0.0	0.5000000
1.500000	0.0	30.00000	0.1199999	0.0	0.0	0.2000000
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.2500000	0.0	0.4500000
0.0	0.0	90.00000	0.0	0.0	0.0	0.0

TABLE C.3 (CONTINUED)

WING GROUP

27.79999	192.0000	39.00000	62.00000	14.00000	3.500000	11.00000
3.910000	0.6670000	0.3870000	2.419999	0.0	9.200000	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5000000	0.5000000	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8400000	1.250000	1.200000	0.0	0.0	0.0	1.099999
0.1070000	0.0	0.5350000E-01	0.0	0.9999998E-02	0.0	0.3330000E-03
0.0	0.2000000	0.0	0.0	0.0	0.0	0.0
-0.2000000E-02	-0.9000000E-02	0.8200000	0.0	0.0	0.0	0.0

STABILIZER NO. 1 GROUP

7.349999	398.5000	22.06999	56.00000	0.6970470	0.0	14.50000
1.490000	1.367000	0.8600000	0.0	0.0	2.000000	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.500000	0.0	0.0	0.0	0.0	0.0	0.0
0.8400000	1.250000	1.200000	0.0	0.0	0.0	1.200000
0.8699995E-01	0.0	0.4350000E-01	0.0	0.7999998E-02	0.0	0.3283999E-03
0.4000000E-01	0.2000000	0.1500000	0.0	0.3320000E-01	0.0	0.0
-0.2000000E-02	-0.9000000E-02	0.8200000	0.8999999E-01	0.0	0.0	0.0
0.0	0.0	0.0	0.4326590	0.2206690	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

STABILIZER NO. 2 GROUP

7.349999	398.5000	-22.06999	56.00000	0.6970470	0.0	14.50000
1.490000	1.367000	0.8600000	0.0	0.0	2.000000	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.500000	0.0	0.0	0.0	0.0	0.0	0.0
0.8400000	1.250000	1.200000	0.0	0.0	0.0	1.200000
0.8699995E-01	0.0	0.4350000E-01	0.0	0.7999998E-02	0.0	0.3283999E-03
0.4000000E-01	0.2000000	0.1500000	0.0	0.3320000E-01	0.0	0.0
-0.2000000E-02	-0.9000000E-02	0.8200000	0.8999999E-01	0.0	0.0	0.0
0.0	0.0	0.0	0.4326590	0.2206690	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

STABILIZER NO. 3 GROUP

13.59999	501.0000	0.0	54.00000	4.500000	40.00000	47.00000
1.559999	0.8670000	0.8400000	0.0	0.9999998E-01	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.1799999	0.0	0.2000000E-02
0.0	0.0	0.0	0.4000000	-20.00000	-20.00000	0.0
0.8400000	1.250000	1.200000	0.0	0.0	0.0	1.200000
0.9999998E-01	0.0	0.5000000E-01	0.0	0.7999998E-02	0.0	0.1370000E-03
0.4000000E-01	0.2000000	0.1500000	0.0	0.3320000E-01	0.0	0.0
-0.2000000E-02	-0.9000000E-02	0.8200000	-0.5000000E-01	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

CONTROLS GROUP

10.00000	9.166599	23.33330	0.0	0.0	0.0	0.0
12.00000	-13.25000	20.66660	0.0	0.0	0.0	0.0
12.00000	-9.366699	10.66663	0.0	0.0	0.0	0.0
9.500000	-10.00000	30.00030	0.0	0.0	0.0	0.0

ITERATION GROUP

41.00000	10.00000	2.000000	0.3000000	0.0	7.000000	0.3000000
0.2000000	0.2000000	1500.000	300.0000	1.000000	0.9999998E-01	2000.000
50.00000	50.00000	50.00000	100.0000	100.0000	100.0000	10.00000

FLIGHT CONSTANTS GROUP

141.8000	0.0	0.0	400.0000	-1.554274	-3.111987	0.0
28.93376	83.72459	39.78286	44.34388	0.0	0.0	0.0
-2.693279	-0.6137535	3.513971	-0.9134431	8025.777	421.8851	0.0
2.000000	0.0	1088.000	6600.000	101.0000	0.8789999	1137.920

TABLE C.3 (CONTINUED)

MAIN ROTOR AEROELASTIC BLADE DISTRIBUTIONS AND DATA

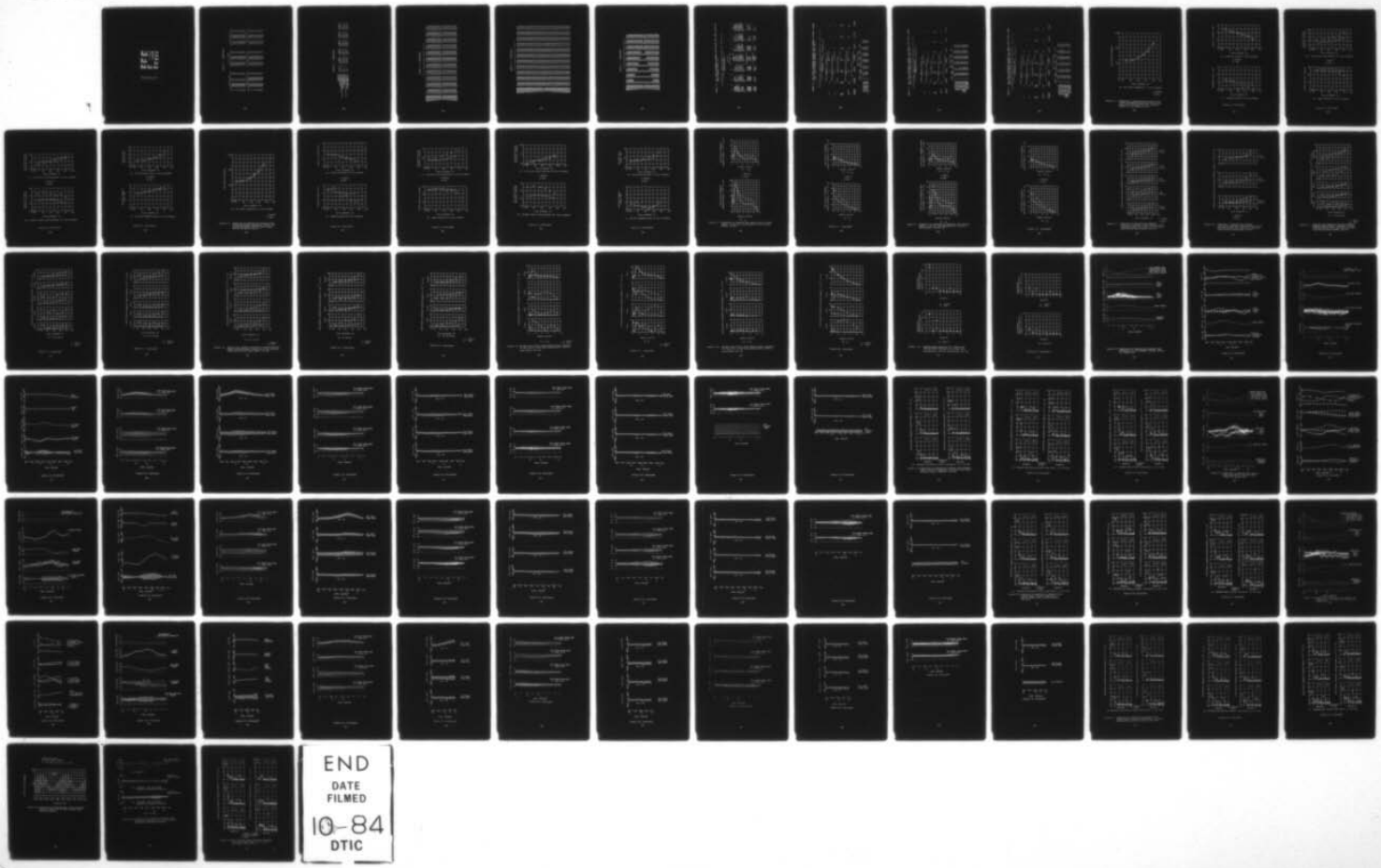
BLADE STATION NUMBER	WEIGHT (LB/IN)	BEAMWISE INERTIA (IN-LB-SEC**2/IN)	CHORDWISE INERTIA (IN-LB-SEC**2/IN)
1	4.6800	0.0	0.0
2	7.2500	0.0	0.0
3	5.6900	0.0	0.0
4	4.6000	0.0	0.0
5	0.9520	0.0	0.0
6	0.7610	0.0	0.0
7	0.8580	0.0	0.0
8	0.8360	0.0	0.0
9	0.8760	0.0	0.0
10	0.7620	0.0	0.0
11	0.7260	0.0	0.0
12	0.8750	0.0	0.0
13	1.1420	0.0	0.0
14	1.0620	0.0	0.0
15	1.0390	0.0	0.0
16	1.2660	0.0	0.0
17	1.1860	0.0	0.0
18	1.2690	0.0	0.0
19	1.1890	0.0	0.0
20	1.1600	0.0	0.0

TOTAL BLADE WEIGHT = 503.96 LB BLADE TIP WEIGHT = 0.0 LB FLAPPING INERTIA/BLADE = 1497.7 SLUG-FT**2

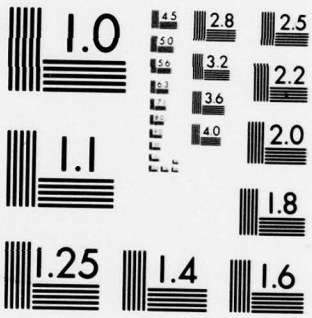
AD-A036 910 AH-1G HELICOPTER AERODYNAMIC AND STRUCTURAL LOADS SURVEY(U) BELL HELICOPTER TEXTRON FORT WORTH TEX G A SHOCKEY ET AL. FEB 77 699-099-017 USAAMRDL-TR-76-39

4/4

UNCLASSIFIED DAAJ02-73-C-0105 F/G 1/1 NL



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DATE FILMED
10-84
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TABLE C.3 (CONTINUED)

MAIN ROTOR

MODE SHAPE FOR MODE 1

STA	OUT-OF-PLANE	INPLANE	TORSION
0	0.0	0.0	0.0
1	0.0500	0.0	0.0
2	0.1000	0.0	0.0
3	0.1500	0.0	0.0
4	0.2000	0.0	0.0
5	0.2500	0.0	0.0
6	0.3000	0.0	0.0
7	0.3500	0.0	0.0
8	0.4000	0.0	0.0
9	0.4500	0.0	0.0
10	0.5000	0.0	0.0
11	0.5500	0.0	0.0
12	0.6000	0.0	0.0
13	0.6500	0.0	0.0
14	0.7000	0.0	0.0
15	0.7500	0.0	0.0
16	0.8000	0.0	0.0
17	0.8500	0.0	0.0
18	0.9000	0.0	0.0
19	0.9500	0.0	0.0
20	1.0000	0.0	0.0

MODE SHAPE FOR MODE 2

OUT-OF-PLANE	INPLANE	TORSION
0.0	0.0	0.0
-0.0211	0.0037	0.0
-0.0478	0.0165	0.0
-0.0774	0.0398	0.0
-0.1041	0.0708	0.0
-0.1196	0.1076	0.0
-0.1223	0.1504	0.0
-0.1157	0.1982	0.0
-0.1033	0.2497	0.0
-0.0877	0.3041	0.0
-0.0703	0.3610	0.0
-0.0520	0.4199	0.0
-0.0333	0.4806	0.0
-0.0144	0.5428	0.0
0.0045	0.6062	0.0
0.0233	0.6707	0.0
0.0420	0.7359	0.0
0.0606	0.8016	0.0
0.0791	0.8676	0.0
0.0976	0.9338	0.0
0.1161	1.0000	0.0

MODE SHAPE FOR MODE 3

OUT-OF-PLANE	INPLANE	TORSION
0.0	0.0	0.0
-0.1283	-0.0021	0.0
-0.2286	-0.0095	0.0
-0.3166	-0.0229	0.0
-0.3977	-0.0398	0.0
-0.4686	-0.0567	0.0
-0.5227	-0.0723	0.0
-0.5579	-0.0863	0.0
-0.5736	-0.0984	0.0
-0.5692	-0.1084	0.0
-0.5435	-0.1162	0.0
-0.4947	-0.1217	0.0
-0.4208	-0.1245	0.0
-0.3209	-0.1246	0.0
-0.1945	-0.1220	0.0
-0.0416	-0.1169	0.0
0.1363	-0.1094	0.0
0.3353	-0.0999	0.0
0.5495	-0.0892	0.0
0.7729	-0.0778	0.0
1.0000	-0.0661	0.0

MODE SHAPE FOR MODE 4

STA	OUT-OF-PLANE	INPLANE	TORSION
0	0.0	0.0	0.0
1	0.0219	-0.0007	0.0
2	0.0658	-0.0014	0.0
3	0.1118	-0.0021	0.0
4	0.1588	-0.0027	0.0
5	0.2071	-0.0030	0.0
6	0.2569	-0.0031	0.0
7	0.3078	-0.0030	0.0
8	0.3596	-0.0027	0.0
9	0.4118	-0.0023	0.0
10	0.4645	-0.0019	0.0
11	0.5174	-0.0015	0.0
12	0.5705	-0.0010	0.0
13	0.6238	-0.0005	0.0
14	0.6773	0.0000	0.0
15	0.7309	0.0005	0.0
16	0.7846	0.0011	0.0
17	0.8384	0.0016	0.0
18	0.8922	0.0022	0.0
19	0.9461	0.0027	0.0
20	1.0000	0.0033	0.0

MODE SHAPE FOR MODE 5

OUT-OF-PLANE	INPLANE	TORSION
0.0	0.0	0.0
-0.0624	-0.0184	0.0
-0.1698	-0.0367	0.0
-0.2751	-0.0546	0.0
-0.3754	-0.0714	0.0
-0.4635	-0.0856	0.0
-0.5326	-0.0957	0.0
-0.5807	-0.1016	0.0
-0.6075	-0.1034	0.0
-0.6126	-0.1012	0.0
-0.5948	-0.0950	0.0
-0.5520	-0.0848	0.0
-0.4819	-0.0703	0.0
-0.3831	-0.0516	0.0
-0.2550	-0.0289	0.0
-0.0975	-0.0025	0.0
0.0879	0.0272	0.0
0.2969	0.0596	0.0
0.5231	0.0936	0.0
0.7545	0.1286	0.0
1.0000	0.1639	0.0

MODE SHAPE FOR MODE 6

OUT-OF-PLANE	INPLANE	TORSION
0.0	0.0	0.0
0.1056	0.0351	0.0
0.2432	0.0692	0.0
0.3584	0.1004	0.0
0.4484	0.1274	0.0
0.4857	0.1419	0.0
0.4504	0.1406	0.0
0.3511	0.1255	0.0
0.2025	0.1002	0.0
0.0229	0.0683	0.0
-0.1698	0.0330	0.0
-0.3548	-0.0027	0.0
-0.5084	-0.0340	0.0
-0.6071	-0.0591	0.0
-0.6304	-0.0752	0.0
-0.5648	-0.0808	0.0
-0.3914	-0.0756	0.0
-0.1275	-0.0604	0.0
0.2107	-0.0392	0.0
0.5956	-0.0136	0.0
1.0000	0.0136	0.0

TABLE C.3 (CONTINUED)

MODE NUMBER	1	2	3	4	5	6
MODE TYPE	RIGID BODY	CYCLIC	CYCLIC	COLLECTIVE	COLLECTIVE	COLLECTIVE
DAMPING RATIO	0.0	0.20000E-01	0.20000E-01	0.20000E-01	0.20000E-01	0.20000E-01
GENERALIZED INERTIA	0.21043E 01	0.24894E 01	0.21931E 01	0.28891E 01	0.21167E 01	0.21466E 01
NATURAL FREQUENCY,/REV	0.10000E 01	0.14198E 01	0.26679E 01	0.10424E 01	0.27555E 01	0.46562E 01
LEAD-LAG HINGE DISPLACEMENT,DEG	0.0	0.0	0.0	0.0	0.0	0.0
CHARACTERISTIC COEFFICIENTS AT BLADE ROOT						
BEAM BENDING MOMENT,FT-LB	-0.18750E 00	0.46647E 02	0.44330E 03	0.66200E 04	-0.19041E 05	0.24422E 05
CHORD BENDING MOMENT,FT-LB	0.0	0.13710E 06	-0.78443E 05	0.12320E 01	0.12193E 03	-0.18203E 04
TORSIONAL MOMENT,FT-LB	0.0	0.0	0.0	0.0	0.0	0.0
VERTICAL SHEAR,LB	0.59097E 04	-0.12274E 04	-0.21255E 05	0.57655E 04	-0.21008E 05	0.46699E 05
INPLANE SHEAR,LB	0.0	0.12966E 05	-0.71386E 04	-0.34934E 02	-0.43307E 04	0.16512E 05
MOMENT COEFFICIENTS AT R = 39.60 IN.						
BEAM BENDING MOMENT,FT-LB	-0.14063E 00	-0.60892E 04	0.18706E 05	0.16942E 04	0.77894E 04	-0.47814E 05
CHORD BENDING MOMENT,FT-LB	0.0	0.99429E 05	-0.58152E 05	-0.16021E 03	0.53095E 04	-0.31944E 05
TORSIONAL MOMENT,FT-LB	0.0	0.0	0.0	0.0	0.0	0.0

TABLE C.3 (CONTINUED)

SUPER 540 EXT*DSUPER 540 EXT*D CLCD DATA TABLES USED

CL

ALPHA/MACH	0.0	0.30000	0.50000	0.60000	0.65000	0.70000	0.75000	0.80000	0.85000	0.90000	1.00000
-180.00000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-172.00000	0.78000	0.78000	0.78000	0.78000	0.78000	0.78000	0.78000	0.78000	0.78000	0.78000	0.78000
-161.00000	0.62000	0.62000	0.62000	0.62000	0.62000	0.62000	0.62000	0.62000	0.62000	0.62000	0.62000
-147.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
-129.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
-49.00000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000
-39.00000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000	-1.18000
-21.00000	-0.80000	-0.81000	-0.85000	-0.85000	-0.85000	-0.85000	-0.71500	-0.68000	-0.66400	-0.64000	-0.64100
-18.00000	-0.85800	-0.85800	-0.86200	-0.87000	-0.87000	-0.86400	-0.75400	-0.72200	-0.69800	-0.67000	-0.66800
-14.00000	-1.17000	-1.17000	-0.92800	-0.87100	-0.87200	-0.85300	-0.84100	-0.80100	-0.76700	-0.72800	-0.72800
-12.00000	-1.22000	-1.22000	-0.93500	-0.86700	-0.86700	-0.83900	-0.84000	-0.81800	-0.77800	-0.74000	-0.73700
-11.00000	-1.18000	-1.18000	-0.93400	-0.86200	-0.86000	-0.82900	-0.83200	-0.81200	-0.77700	-0.74000	-0.72600
-10.00000	-1.07000	-1.07000	-0.93000	-0.85300	-0.85400	-0.81500	-0.82000	-0.80300	-0.77000	-0.73400	-0.70500
-9.00000	-0.96800	-0.96800	-0.92000	-0.83800	-0.84000	-0.80500	-0.80100	-0.78100	-0.75200	-0.71800	-0.67200
-8.00000	-0.86000	-0.86000	-0.89000	-0.81300	-0.81900	-0.77800	-0.78000	-0.75300	-0.73000	-0.69000	-0.63200
-7.00000	-0.75300	-0.75300	-0.83000	-0.78400	-0.78500	-0.75400	-0.74200	-0.72000	-0.70400	-0.65200	-0.58100
-6.00000	-0.64500	-0.64500	-0.71000	-0.74500	-0.72200	-0.72100	-0.67900	-0.67200	-0.66800	-0.60100	-0.52000
-4.00000	-0.43000	-0.43000	-0.47400	-0.52400	-0.55600	-0.58900	-0.56500	-0.56000	-0.52000	-0.45000	-0.36000
-2.00000	-0.21500	-0.21500	-0.23700	-0.26200	-0.27800	-0.29800	-0.31200	-0.31200	-0.26000	-0.22500	-0.18000
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.00000	0.21500	0.21500	0.23700	0.26200	0.27800	0.29800	0.31200	0.31200	0.26000	0.22500	0.18000
4.00000	0.43000	0.43000	0.47400	0.52400	0.55600	0.58900	0.56500	0.56000	0.52000	0.45000	0.36000
6.00000	0.64500	0.64500	0.71000	0.74500	0.72200	0.72100	0.67900	0.67200	0.66800	0.60100	0.52000
7.00000	0.75300	0.75300	0.83000	0.78400	0.78500	0.75400	0.74200	0.72000	0.70400	0.65200	0.58100
8.00000	0.86000	0.86000	0.89000	0.81300	0.81900	0.77800	0.78000	0.75300	0.73000	0.69000	0.63200
9.00000	0.96800	0.96800	0.92000	0.83800	0.84000	0.80500	0.80100	0.78100	0.75200	0.71800	0.67200
10.00000	1.07500	1.07500	0.93000	0.85300	0.85400	0.81500	0.82000	0.80300	0.77000	0.73400	0.70500
11.00000	1.18400	1.18400	0.93400	0.86200	0.86000	0.82900	0.83200	0.81200	0.77700	0.74000	0.72600
12.00000	1.22000	1.22000	0.93500	0.86700	0.86700	0.83900	0.84000	0.81800	0.77800	0.74000	0.73700
14.00000	1.17200	1.17200	0.92800	0.87100	0.87200	0.85300	0.84100	0.80100	0.76700	0.72800	0.72800
18.00000	0.85800	0.85800	0.86200	0.87000	0.87000	0.86400	0.75400	0.72200	0.69800	0.67000	0.66800
21.00000	0.80000	0.81000	0.85000	0.85000	0.85000	0.85000	0.71500	0.68000	0.66400	0.64000	0.64100
39.00000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000
49.00000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000	1.18000
129.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
147.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000	-1.00000
161.00000	-0.62000	-0.62000	-0.62000	-0.62000	-0.62000	-0.62000	-0.62000	-0.62000	-0.62000	-0.62000	-0.62000
172.50000	-0.78000	-0.78000	-0.78000	-0.78000	-0.78000	-0.78000	-0.78000	-0.78000	-0.78000	-0.78000	-0.78000
180.00000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE C.3 (CONTINUED)

SUPER 540 EXT'D CD SUPER 540 EXT'D CLCD DATA TABLES USED

ALPHA/MACH	0.0	0.30000	0.50000	0.60000	0.65000	0.70000	0.75000	0.80000	0.85000	0.90000	1.00000
-180.00000	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200
-175.00000	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200
-170.00000	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200
-165.00000	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200
-160.00000	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200
-140.00000	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200
-120.00000	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200
-110.00000	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200
-100.00000	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200
-90.00000	2.02200	2.02200	2.02200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200
-80.00000	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200
-70.00000	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200
-60.00000	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200
-50.00000	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200
-30.00000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000
-28.00000	0.54000	0.54000	0.56300	0.57800	0.57800	0.58100	0.58100	0.58100	0.58100	0.58100	0.58100
-26.00000	0.48000	0.48000	0.52200	0.54500	0.54500	0.54700	0.55800	0.55800	0.55800	0.55800	0.55800
-24.00000	0.42000	0.42000	0.46900	0.50000	0.50200	0.51200	0.52600	0.52600	0.52600	0.52600	0.52600
-22.00000	0.35800	0.35800	0.40900	0.44800	0.46100	0.47200	0.48900	0.49100	0.49100	0.49100	0.49100
-20.00000	0.29900	0.29900	0.35100	0.39600	0.41400	0.43100	0.45100	0.45300	0.45300	0.45300	0.45300
-18.00000	0.24000	0.24000	0.30000	0.34500	0.37000	0.38600	0.40700	0.41400	0.41900	0.41900	0.41900
-16.00000	0.19100	0.19100	0.25300	0.30000	0.32600	0.34100	0.35800	0.36700	0.38100	0.38900	0.38900
-15.00000	0.16700	0.16700	0.23200	0.27500	0.30300	0.31800	0.33300	0.34200	0.36500	0.37200	0.37200
-13.50000	0.13500	0.13500	0.20200	0.24400	0.27100	0.28300	0.29900	0.30900	0.33900	0.35100	0.35100
-12.50000	0.10050	0.10050	0.17500	0.22000	0.24900	0.26100	0.27400	0.28500	0.32100	0.33500	0.33600
-11.50000	0.04600	0.04600	0.14200	0.18800	0.22600	0.23800	0.25100	0.26100	0.30200	0.31900	0.32100
-10.50000	0.02600	0.02600	0.11000	0.15800	0.19500	0.21200	0.22900	0.24000	0.28700	0.30200	0.30500
-9.50000	0.01750	0.01750	0.07800	0.12700	0.16400	0.18600	0.20400	0.21800	0.26900	0.28700	0.29100
-8.50000	0.01250	0.01250	0.04900	0.09600	0.13300	0.16200	0.18000	0.19500	0.25000	0.26900	0.27500
-7.50000	0.01020	0.01020	0.02740	0.06600	0.10200	0.13200	0.15500	0.17100	0.23000	0.25000	0.25700
-6.50000	0.00920	0.00920	0.01240	0.03900	0.07100	0.10200	0.12700	0.14600	0.21000	0.23000	0.23900
-5.50000	0.00850	0.00850	0.01000	0.02230	0.04150	0.07150	0.09850	0.12000	0.18700	0.21100	0.22000
-4.50000	0.00800	0.00800	0.00940	0.01540	0.02000	0.04300	0.07000	0.10000	0.16900	0.19400	0.19600
-3.50000	0.00790	0.00790	0.00860	0.00890	0.01280	0.02600	0.04500	0.07000	0.14100	0.16600	0.17600
-2.50000	0.00740	0.00740	0.00780	0.00790	0.00930	0.01650	0.02700	0.04200	0.11000	0.14000	0.15000
-1.50000	0.00710	0.00710	0.00710	0.00700	0.00730	0.00980	0.01650	0.02650	0.07000	0.10500	0.12000
-0.50000	0.00680	0.00680	0.00680	0.00670	0.00650	0.00720	0.00890	0.01680	0.05000	0.07200	0.09500
0.0	0.00680	0.00680	0.00670	0.00660	0.00650	0.00680	0.00740	0.01500	0.04500	0.06900	0.09300
0.50000	0.00680	0.00680	0.00680	0.00670	0.00650	0.00720	0.00890	0.01680	0.05000	0.07200	0.09500
1.50000	0.00710	0.00710	0.00710	0.00700	0.00730	0.00980	0.01650	0.02650	0.07000	0.10500	0.12000
2.50000	0.00740	0.00740	0.00780	0.00790	0.00930	0.01650	0.02700	0.04200	0.11000	0.14000	0.15000
3.50000	0.00790	0.00790	0.00860	0.00890	0.01280	0.02600	0.04500	0.07000	0.14100	0.16600	0.17600
4.50000	0.00800	0.00800	0.00940	0.01340	0.02000	0.04300	0.07000	0.10000	0.16600	0.19400	0.19600
5.50000	0.00850	0.00850	0.01000	0.02230	0.04150	0.07150	0.09850	0.12000	0.18700	0.21100	0.22000
6.50000	0.00920	0.00920	0.01240	0.03900	0.07100	0.10200	0.12700	0.14600	0.21000	0.23000	0.23900
7.50000	0.01020	0.01020	0.02740	0.06600	0.10200	0.13200	0.15500	0.17100	0.23000	0.25000	0.25700
8.50000	0.01250	0.01250	0.04900	0.09600	0.13300	0.16200	0.18000	0.19500	0.25000	0.26900	0.27500
9.50000	0.01750	0.01750	0.07800	0.12700	0.16400	0.18600	0.20400	0.21800	0.26900	0.28700	0.29100
10.50000	0.02600	0.02600	0.11000	0.15800	0.19500	0.21200	0.22900	0.24000	0.28700	0.30200	0.30500
11.50000	0.04600	0.04600	0.14200	0.18800	0.22600	0.23800	0.25100	0.26100	0.30200	0.31900	0.32100
12.50000	0.10050	0.10050	0.17500	0.22000	0.24900	0.26100	0.27400	0.28500	0.32100	0.33500	0.33600
13.50000	0.13500	0.13500	0.20200	0.24400	0.27100	0.28300	0.29900	0.30900	0.33900	0.35100	0.35100
15.00000	0.16700	0.16700	0.23200	0.27500	0.30300	0.31800	0.33300	0.34200	0.36500	0.37200	0.37200
16.00000	0.19100	0.19100	0.25300	0.30000	0.32600	0.34100	0.35800	0.36700	0.38100	0.38900	0.38900
18.00000	0.24000	0.24000	0.30000	0.34500	0.37000	0.38600	0.40700	0.41400	0.41900	0.41900	0.41900
20.00000	0.29900	0.29900	0.35100	0.39600	0.41400	0.43100	0.45100	0.45300	0.45300	0.45300	0.45300
22.00000	0.35800	0.35800	0.40900	0.44800	0.46100	0.47200	0.48900	0.49100	0.49100	0.49100	0.49100
24.00000	0.42000	0.42000	0.46900	0.50000	0.50200	0.51200	0.52600	0.52600	0.52600	0.52600	0.52600
26.00000	0.48000	0.48000	0.52200	0.54500	0.54500	0.54700	0.55800	0.55800	0.55800	0.55800	0.55800
28.00000	0.54000	0.54000	0.56300	0.57800	0.57800	0.58100	0.58100	0.58100	0.58100	0.58100	0.58100
30.00000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000	0.60000
50.00000	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200	1.39200
60.00000	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200	1.66200
70.00000	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200	1.84200
80.00000	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200	1.96200
90.00000	2.02200	2.02200	2.02200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200
100.00000	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200	2.00200
110.00000	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200	1.85200
120.00000	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200	1.65200
140.00000	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200	1.04200
160.00000	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200	0.30200
165.00000	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200	0.24200
170.00000	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200	0.13200
175.00000	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200	0.06200
180.00000	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200	0.02200

TABLE C.3 (CONCLUDED)

SUPER 540 EXT'D SUPER 540 EXT'D CLCD DATA TABLES USED
CM

ALPHA/MACH	0.20000	0.30000	0.40000	0.50000	0.60000	0.70000	0.75000	0.80000	0.90000
-180.00000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-170.00000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000	0.40000
-165.00000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000
-160.00000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000	0.30000
-135.00000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000
-90.00000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000	0.50000
-30.00000	0.17400	0.18400	0.19600	0.21400	0.23500	0.25000	0.26400	0.27700	0.29800
-23.00000	0.11200	0.11800	0.12800	0.14400	0.15700	0.17100	0.18300	0.20600	0.23200
-16.00000	0.07300	0.07800	0.08600	0.09700	0.10800	0.11700	0.13700	0.17600	0.20000
-15.00000	0.05400	0.06500	0.07300	0.08400	0.09700	0.11100	0.13300	0.17300	0.19500
-14.00000	0.0	0.02700	0.05400	0.06800	0.08600	0.10300	0.12700	0.16700	0.18900
-13.00000	0.0	0.00150	0.02500	0.05000	0.07400	0.09300	0.12200	0.16300	0.18400
-12.00000	0.0	0.0	0.00200	0.03000	0.06000	0.08300	0.11600	0.15700	0.17600
-11.00000	0.0	0.0	-0.00300	0.01400	0.04600	0.07400	0.10800	0.14900	0.17000
-10.00000	0.0	0.0	-0.00200	0.00200	0.03200	0.06500	0.10000	0.14200	0.16300
-9.00000	0.0	0.0	0.0	-0.00300	0.01600	0.05400	0.08900	0.13200	0.15400
-8.00000	0.0	0.0	0.0	-0.00400	0.00500	0.04100	0.08200	0.12300	0.14500
-7.00000	0.0	0.0	0.0	0.0	-0.00400	0.02750	0.07200	0.11250	0.13600
-6.00000	0.0	0.0	0.0	0.0	-0.00300	0.01600	0.06200	0.10000	0.12500
-4.00000	0.0	0.0	0.0	0.0	0.0	0.00500	0.04000	0.07600	0.10200
-3.00000	0.0	0.0	0.0	0.0	0.0	-0.00300	0.02600	0.06650	0.08700
-2.00000	0.0	0.0	0.0	0.0	0.0	0.0	0.01300	0.05300	0.07000
-1.00000	0.0	0.0	0.0	0.0	0.0	0.0	0.00350	0.03300	0.04500
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.00000	0.0	0.0	0.0	0.0	0.0	0.0	-0.00400	-0.03300	-0.04500
2.00000	0.0	0.0	0.0	0.0	0.0	0.0	-0.01300	-0.05300	-0.07000
3.00000	0.0	0.0	0.0	0.0	0.0	0.00250	-0.02600	-0.06700	-0.08700
4.00000	0.0	0.0	0.0	0.0	0.0	-0.00500	-0.04000	-0.07600	-0.10200
6.00000	0.0	0.0	0.0	0.0	0.00300	-0.01600	-0.06300	-0.10000	-0.12500
7.00000	0.0	0.0	0.0	0.0	0.00400	-0.02800	-0.07200	-0.11300	-0.13600
8.00000	0.0	0.0	0.0	0.00400	-0.00500	-0.04100	-0.08200	-0.12300	-0.14500
9.00000	0.0	0.0	0.0	0.00300	-0.01600	-0.05400	-0.08900	-0.13200	-0.15400
10.00000	0.0	0.0	0.00150	-0.00200	-0.03200	-0.06500	-0.10000	-0.14200	-0.16300
11.00000	0.0	0.0	0.00300	-0.01400	-0.04600	-0.07400	-0.10800	-0.14900	-0.17000
12.00000	0.0	0.0	-0.00200	-0.03000	-0.06000	-0.08300	-0.11600	-0.15700	-0.17600
13.00000	0.0	-0.00200	-0.02500	-0.05000	-0.07400	-0.09300	-0.12200	-0.16300	-0.18400
14.00000	0.0	-0.02700	-0.05400	-0.06800	-0.08600	-0.10300	-0.12700	-0.16700	-0.18900
15.00000	-0.05400	-0.06500	-0.07300	-0.08400	-0.09700	-0.11100	-0.13300	-0.17300	-0.19500
16.00000	-0.07300	-0.07800	-0.08600	-0.09700	-0.10800	-0.11700	-0.13700	-0.17600	-0.20000
23.00000	-0.11200	-0.11800	-0.12800	-0.14400	-0.15700	-0.17100	-0.18300	-0.20600	-0.23200
30.00000	-0.17400	-0.18400	-0.19600	-0.21400	-0.23500	-0.25000	-0.26400	-0.27700	-0.29800
90.00000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000
135.00000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000	-0.50000
160.00000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000
165.00000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000	-0.30000
170.00000	-0.40000	-0.40000	-0.40000	-0.40000	-0.40000	-0.40000	-0.40000	-0.40000	-0.40000
180.00000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE C.4 C81 INPUT PARAMETER CHANGES FOR FLIGHT 36A (HOG, 9070-LB GROSS WEIGHT, AFT C.G.)

BELL HELICOPTER COMPANY ROTORCRAFT FLIGHT SIMULATION PROGRAM AGAJ7407 COMPUTED 10/25/76

AH-1G WITH INSTRUMENTED MAIN RUTOR
FLIGHT 36A 9070# , 196.2
LEVEL FLIGHT SPEED SWEEP

INPUT DATA

PROGRAM LOGIC GROUP

0	1	6	0	0	2	0	1	-1	3	0	2	0	0
0	1	1	1	2	1	1	0	0	0	1	1	0	0
0	0	0	0	0	0	1	1	0	0	0	0	0	0

FUSELAGE GROUP

8419.000	200.0600	0.0	71.20000	196.1200	0.0	70.00000
3195.000	13200.00	11600.00	968.0000	0.0	15.00000	35.00000
-4.113796	0.0	0.0	0.0	0.0	0.0	-0.1649200E-01
0.1794500E-01	0.2739770	-0.1903000E-02	0.7109998E-03	0.9462997E-02	-0.1530000E-03	0.3050000E-03
5.500000	0.0	196.1000	84.70000	0.0	0.0	-0.2694200E-01
0.4361300E-01	-0.7022095E-01	-0.1970000E-03	0.5780000E-03	0.1266100E-01	0.1000000E-04	0.6599999E-04
-6.906600	0.0	0.0	0.0	300.0000	0.0	0.4389170
-0.7697695E-01	4.844087	0.1390000E-01	-0.8010000E-02	-0.5651300E-01	0.1731000E-02	-0.3101000E-02
0.0	11.76000	45.00000	0.3995540	0.4357100E-01	0.4109999E-03	-0.3699999E-04
1.638453	0.4149800E-01	0.2351000E-02	-0.3571000E-02	-0.2769998E-03	0.2414000E-02	-0.4799999E-04
0.0	-140.0000	45.00000	0.5549997E-02	-0.2209679	-0.1399700E-01	0.8119999E-03
-4.299999	-0.4806000E-01	-0.4260000E-02	0.3011000E-02	-0.8599999E-04	-0.4042000E-02	-0.2020000E-03
600.0000	0.0	0.0	-8.757113	0.6934799E-01	0.9264000E-02	-0.1040000E-02
15.94162	0.1254000E-02	-0.3040000E-02	0.1731300E-01	0.2510000E-02	-0.3025000E-02	-0.1640000E-03
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

EXTERNAL STORES GROUP

324.5000	196.5400	42.50000	42.89999	-5.000000	0.0	0.9999999E-01
2.200000	15.69000	15.69000	0.0	0.2000000	0.0	0.0
0.4299999	4.940000	2.000000	9.669999	9.669999	0.4299999	4.940000
324.5000	196.5400	-42.50000	42.89999	-5.000000	0.0	0.9999999E-01
2.200000	15.69000	15.69000	0.0	0.2000000	0.0	0.0
0.4299999	4.940000	2.000000	9.669999	9.669999	0.4299999	4.940000

FLIGHT CONSTANTS GROUP

133.8000	0.0	0.0	2500.000	-2.136507	-5.284790	0.0
29.84156	73.91229	43.15616	51.18480	0.0	0.0	0.0
-0.5464368	-1.124434	3.612654	-1.047167	8858.367	451.9661	0.0
2.000000	0.0	1088.000	6600.000	101.0000	0.8839999	1138.870

TABLE C.5 C81 INPUT PARAMETER CHANGES FOR SYMMETRIC PULLUP (CLEAN WING, 8320-LB GROSS WEIGHT, AFT C.G.)

BELL HELICOPTER COMPANY ROTORCRAFT FLIGHT SIMULATION PROGRAM AGAJ7407 COMPUTED 10/27/76

AH-1G WITH INSTRUMENTED MAIN ROTOR
FLIGHT 32-A 8400 #, 196.7 CG STA
SYM. PULLUP - 1.8 G'S @ 138.0 KT. VTRUE

NOBOBWGT DAVID ELLIS (5- 1-70)
STANDARD SETUP FOR BOBWEIGHT OFF

BOBWEIGHT GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOWEAPON DAVID ELLIS (5- 1-70)
STANDARD SETUP FOR WEAPON OFF

WEAPON GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOSCAS B. J. BIRD (10-15-71)
STANDARD DATA FOR NO SCAS

SCAS GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOSTABTM DAVID ELLIS (5- 1-70)
**STANDARD SETUP FOR STABILITY TIMES OFF*

STAB TIMES GROUP

9999.000	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

D L S BLADE ELEMENT PRINTOUT

AIRLOAD TIMES GROUP

-360.0000	-720.0000	-1080.000	-1440.000	-1800.000	-2160.000	-2520.000
-2880.000	-3240.000	-3600.000	-3960.000	-4320.000	-4680.000	-5040.000

INPUT DATA FOR MANEUVER

START (SEC)	DELT1 (SEC)	MAX1 (SEC)	DELT2 (SEC)	MAX2 (SEC)	MAX3 (SEC)
0.0	10.000000	8.000000	10.000000	0.0	0.0

	J	XCIT(J,1)	(J,2)	(J,3)	(J,4)	(J,5)	(J,6)
COLLECTIVE STICK	1	0.0	0.0	8.000	0.0	0.0	0.0
F/A CYCLIC STICK	2	0.0	0.0	0.250	0.250	-0.950	1.050
F/A CYCLIC STICK	2	1.050	-0.300	1.600	1.600	0.0	1.480
F/A CYCLIC STICK	2	1.980	0.500	3.000	3.000	-0.100	3.450
F/A CYCLIC STICK	2	3.450	0.0	4.000	4.000	-0.100	4.500
F/A CYCLIC STICK	2	4.500	0.0	8.000	0.0	0.0	0.0
SIMULATE AUTO PILOT	32	0.0	40.000	40.000	40.000	0.500	0.500

TABLE C.6 C81 INPUT PARAMETER CHANGES FOR LEVEL LEFT TURN (CLEAN WING, 8400-LB GROSS WEIGHT, AFT C.G.)

BELL HELICOPTER COMPANY ROTORCRAFT FLIGHT SIMULATION PROGRAM AGAJ7407 COMPUTED 10/27/76

AH-1G WITH INSTRUMENTED MAIN ROTOR
FLIGHT 32-A 8400 #. 196.7 CG STA
LEVEL LEFT TURN @ 2.0 G'S & 138 KTS VTRUE

NOBOBWGT DAVID ELLIS (5- 1-70)
STANDARD SETUP FOR BOBWEIGHT OFF

BOBWEIGHT GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOWEAPON DAVID ELLIS (5- 1-70)
STANDARD SETUP FOR WEAPON OFF

WEAPON GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOSCAS B. J. BIRD (10-15-71)
STANDARD DATA FOR NO SCAS

SCAS GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOSTABTM DAVID ELLIS (5- 1-70)
**STANDARD SETUP FOR STABILITY TIMES OFF*

STAB TIMES GROUP

9999.000	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

O L S BLADE ELEMENT PRINTOUT

AIRLOAD TIMES GROUP

-360.0000	-720.0000	-1080.000	-1440.000	-1800.000	-2160.000	-2520.000
-2880.000	-3240.000	-3600.000	-3960.000	-4320.000	-4680.000	-5040.000

INPUT DATA FOR MANEUVER

START (SEC)	DELT1 (SEC)	MAX1 (SEC)	DELT2 (SEC)	MAX2 (SEC)	MAX3 (SEC)
0.0	10.000000	8.000000	10.000000	0.0	0.0

	J	XCIT(J,1)	(J,2)	(J,3)	(J,4)	(J,5)	(J,6)
COLLECTIVE STICK	1	0.0	0.0	3.440	3.440	-0.300	3.740
COLLECTIVE STICK	1	3.740	0.0	5.525	5.525	-0.340	5.720
COLLECTIVE STICK	1	5.720	0.0	6.360	6.360	-0.600	6.510
COLLECTIVE STICK	1	6.510	0.0	6.900	6.900	-0.910	7.080
COLLECTIVE STICK	1	7.080	0.0	8.000	0.0	0.0	0.0
F/A CYCLIC STICK	2	0.0	0.0	0.470	0.470	-0.200	0.850
F/A CYCLIC STICK	2	0.850	0.0	1.030	1.030	-0.250	2.810
F/A CYCLIC STICK	2	2.810	-0.200	3.000	3.000	-0.700	3.820
F/A CYCLIC STICK	2	3.820	-0.100	4.310	4.310	0.350	5.525
F/A CYCLIC STICK	2	5.525	0.0	5.870	5.870	0.0	6.500
F/A CYCLIC STICK	2	6.500	0.0	8.000	0.0	0.0	0.0
LATERAL CYCLIC STICK	3	0.140	-0.480	1.180	1.180	0.100	2.000
LATERAL CYCLIC STICK	3	2.000	0.320	2.810	2.810	0.500	3.230
LATERAL CYCLIC STICK	3	3.230	1.500	4.160	4.160	0.100	5.525
LATERAL CYCLIC STICK	3	5.525	-0.400	5.670	5.670	-0.800	6.200
LATERAL CYCLIC STICK	3	6.200	-0.800	6.400	6.400	-0.400	8.000
PEDAL MOVEMENT	4	0.0	0.0	1.200	1.200	0.200	2.500
PEDAL MOVEMENT	4	2.500	0.320	3.200	3.200	0.500	4.000
PEDAL MOVEMENT	4	4.000	0.150	5.600	5.600	0.0	6.000
PEDAL MOVEMENT	4	6.000	-0.500	7.500	7.500	0.0	8.000

TABLE C.7 C81 INPUT PARAMETER CHANGES FOR LEVEL RIGHT TURN (CLEAN WING, 8400-LB GROSS WEIGHT, AFT C.G.)

BELL HELICOPTER COMPANY ROTORCRAFT FLIGHT SIMULATION PROGRAM AGAJ7407 COMPUTED 10/27/76

AH-1G WITH INSTRUMENTED MAIN ROTOR
FLIGHT 32-A 8400 #, 196.7 CG STA
LEVEL RIGHT TURN @ 2.0 G'S & 135 KTS VTRUE

NOBOBWGT DAVID ELLIS (5- 1-70)
STANDARD SETUP FOR NOBWEIGHT OFF

BOBWEIGHT GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOWEAPON DAVID ELLIS (5- 1-70)
STANDARD SETUP FOR WEAPON OFF

WEAPON GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOSCAS B. J. BIRD (10-15-71)
STANDARD DATA FOR NO SCAS

SCAS GROUP

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

NOSTABTM DAVID ELLIS (5- 1-70)
**STANDARD SETUP FOR STABILITY TIMES OFF*

STAB TIMES GROUP

9999.000	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

O L S BLADE ELEMENT PRINTOUT

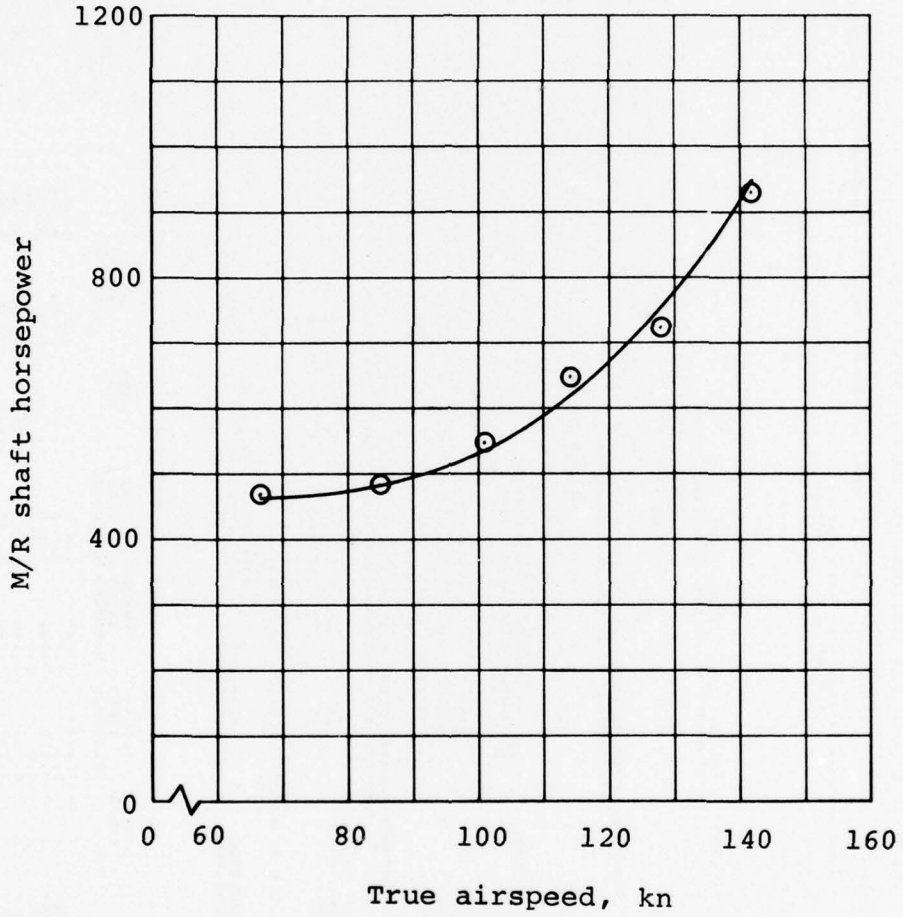
AIRLOAD TIMES GROUP

-360.0000	-720.0000	-1080.000	-1440.000	-1800.000	-2160.000	-2520.000
-2880.000	-3240.000	-3600.000	-3960.000	-4320.000	-4680.000	-5040.000

INPUT DATA FOR MANEUVER

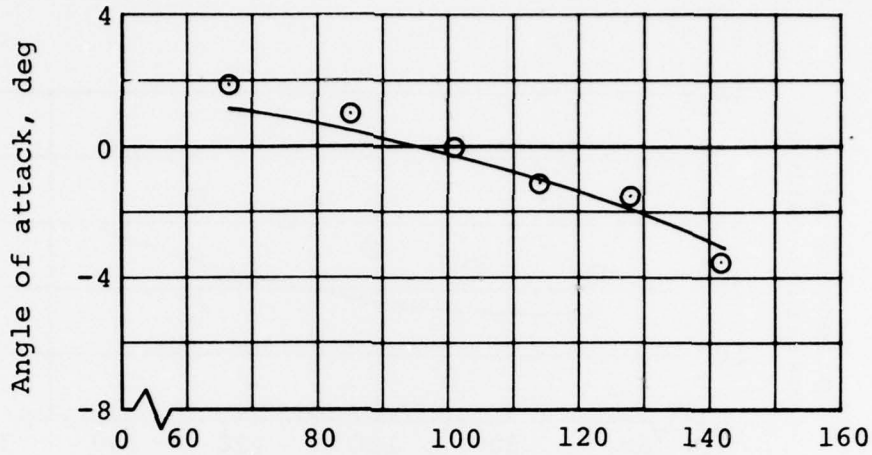
START (SEC)	DELT1 (SEC)	MAX1 (SEC)	DELT2 (SEC)	MAX2 (SEC)	MAX3 (SEC)
0.0	10.000000	5.400000	10.000000	0.0	0.0

	J	XCIT(J,1)	(J,2)	(J,3)	(J,4)	(J,5)	(J,6)
COLLECTIVE STICK	1	0.0	0.0	1.666	1.666	-0.080	5.510
COLLECTIVE STICK	1	5.510	-0.254	6.100	6.100	0.0	9.700
F/A CYCLIC STICK	2	0.0	0.0	0.250	0.250	0.300	0.750
F/A CYCLIC STICK	2	0.750	-0.100	1.000	1.000	-0.300	1.250
F/A CYCLIC STICK	2	1.250	-0.400	1.830	1.830	-0.600	2.650
F/A CYCLIC STICK	2	2.650	-0.650	3.660	3.660	-0.100	4.410
F/A CYCLIC STICK	2	4.410	-0.300	5.500	5.500	-0.300	6.000
F/A CYCLIC STICK	2	6.000	0.0	9.700	0.0	0.0	0.0
LATERAL CYCLIC STICK	3	0.0	0.0	0.100	0.100	0.800	1.700
LATERAL CYCLIC STICK	3	1.700	-0.250	2.700	2.700	0.500	3.000
LATERAL CYCLIC STICK	3	3.000	0.500	3.600	3.600	0.0	4.213
LATERAL CYCLIC STICK	3	4.213	-0.600	4.410	4.410	0.0	5.200
LATERAL CYCLIC STICK	3	5.200	-0.400	5.700	5.700	0.0	9.700
PEDAL MOVEMENT	4	0.0	0.0	1.850	1.850	-0.080	4.000
PEDAL MOVEMENT	4	4.000	0.100	4.500	4.500	0.200	5.600
PEDAL MOVEMENT	4	5.600	0.0	9.700	0.0	0.0	0.0



(a) M/R shaft horsepower vs true airspeed

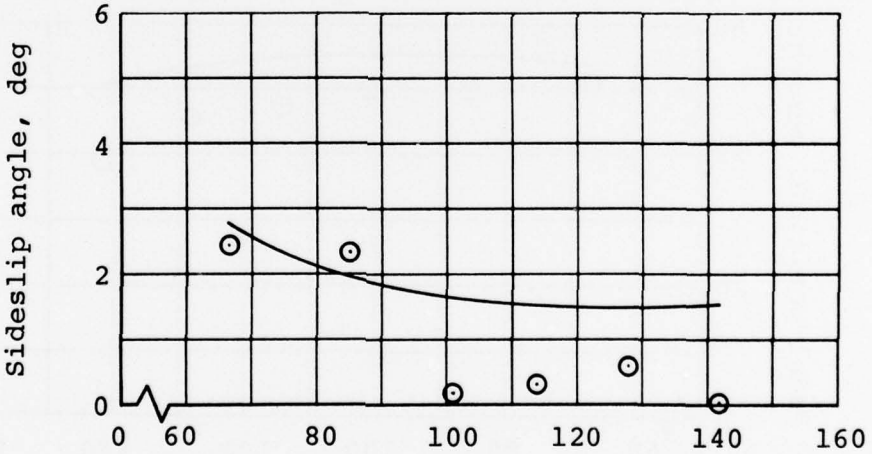
Figure C.1. Comparison of measured and computed level flight performance parameters (Flight 35A, clean wing configuration, 8320-lb gross weight, aft cg station 200.6).



(b) Angle of attack vs true airspeed

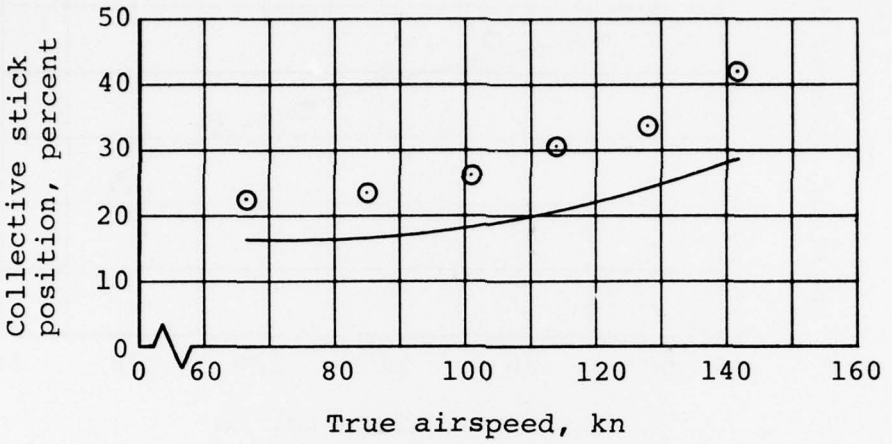
— Theory

O Test



(c) Sideslip angle vs true airspeed

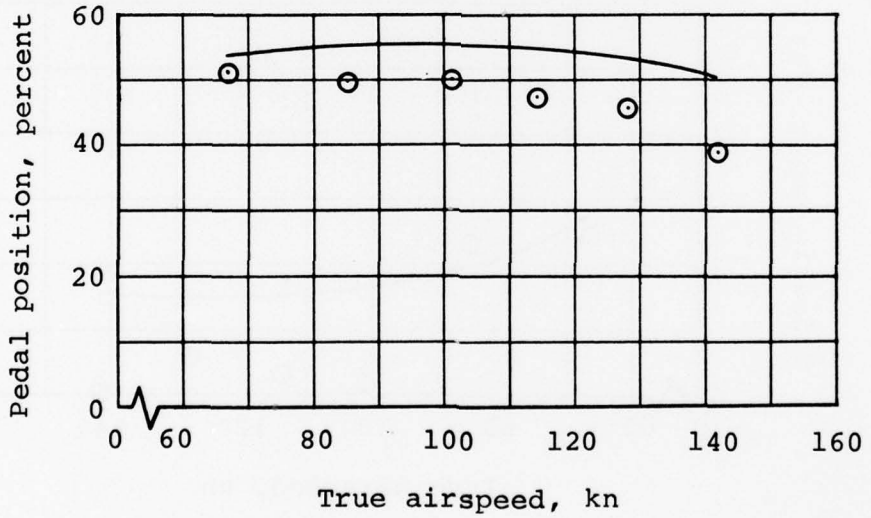
Figure C.1 (Continued)



(d) Collective stick position vs true airspeed

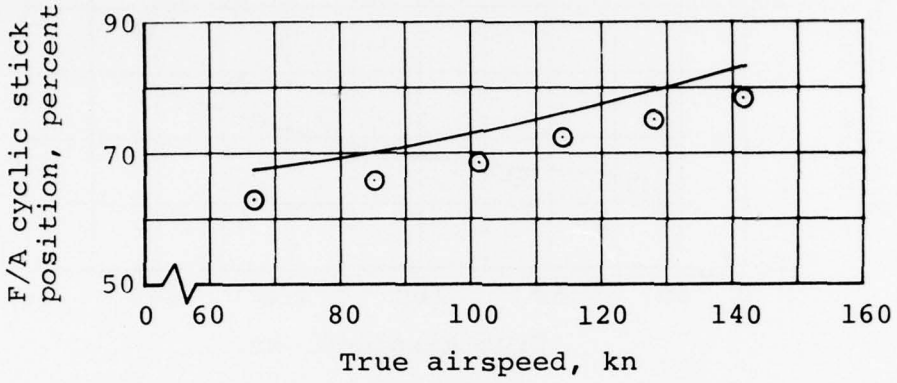
—— Theory

O Test



(e) Pedal position vs true airspeed

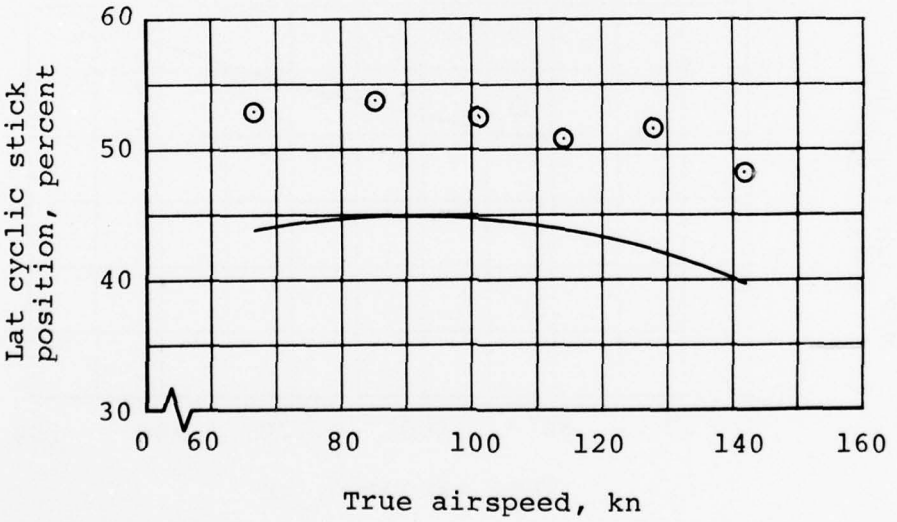
Figure C.1 (Continued)



(f) F/A cyclic stick position vs true airspeed

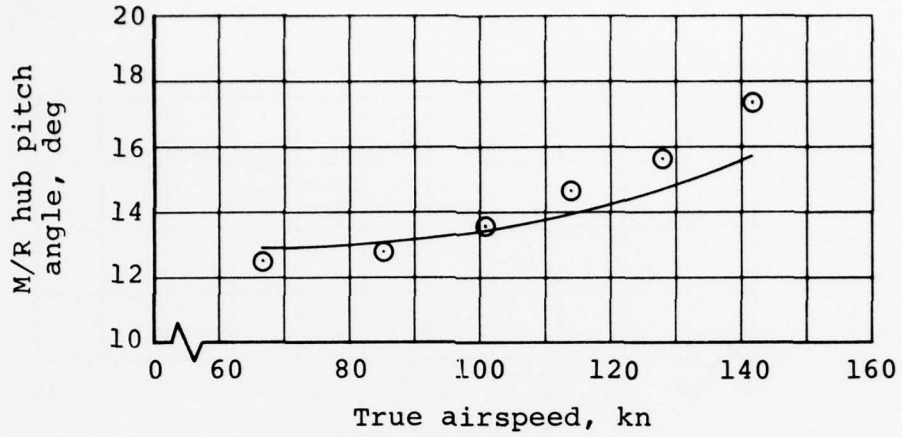
—Theory

O Test



(g) Lateral cyclic stick position vs. true airspeed

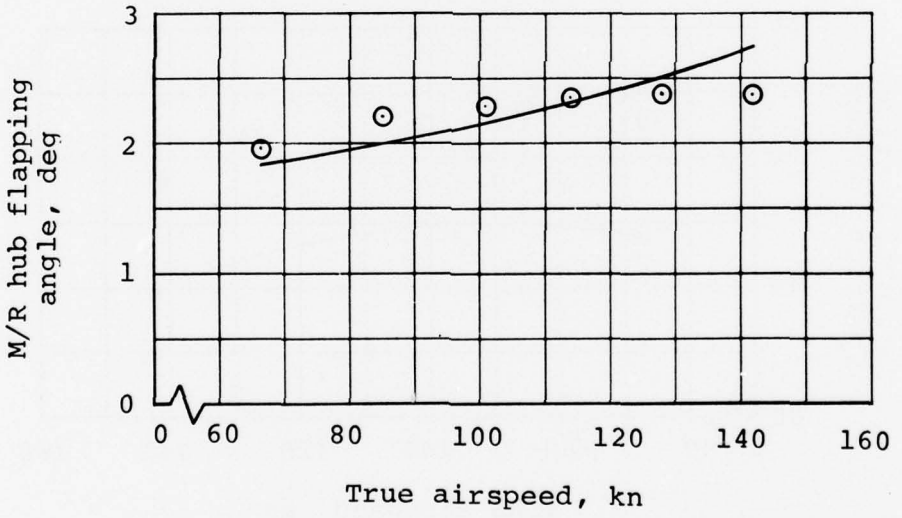
Figure C.1 (Continued)



(h) M/R hub pitch angle vs true airspeed

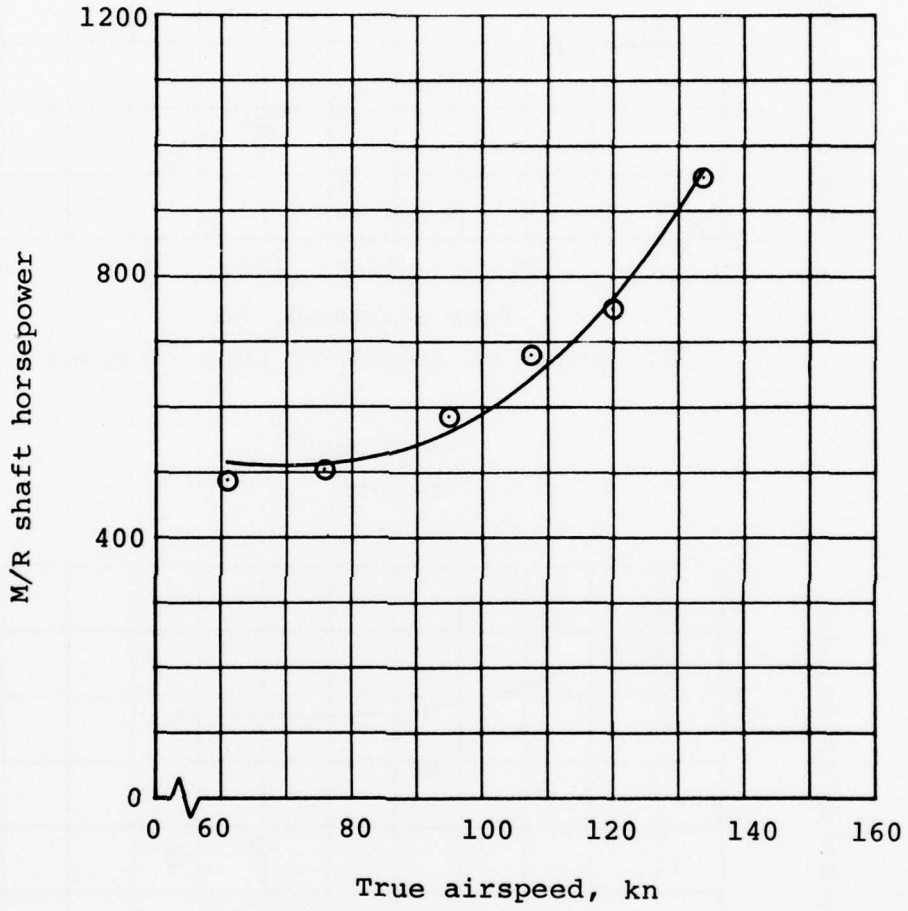
——Theory

O Test



(i) M/R hub flapping angle vs true airspeed

Figure C.1 (Concluded)

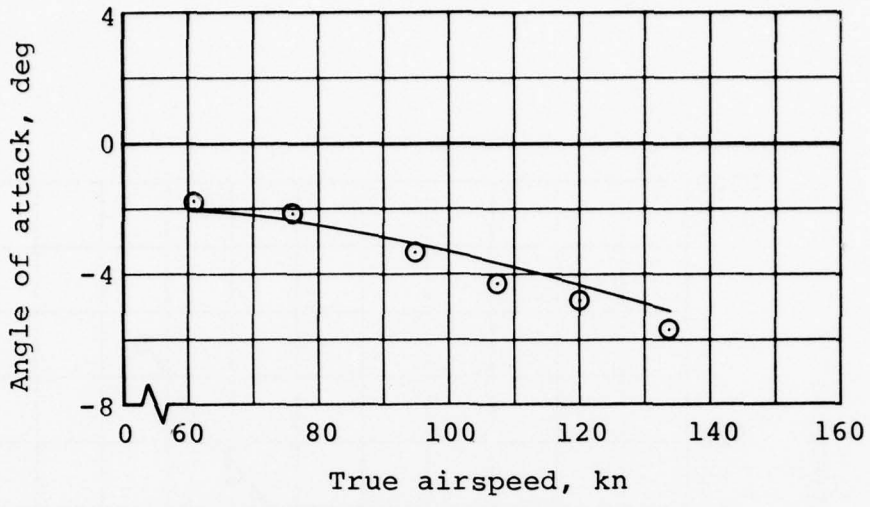


(a) M/R shaft horsepower vs true airspeed

——Theory

O Test

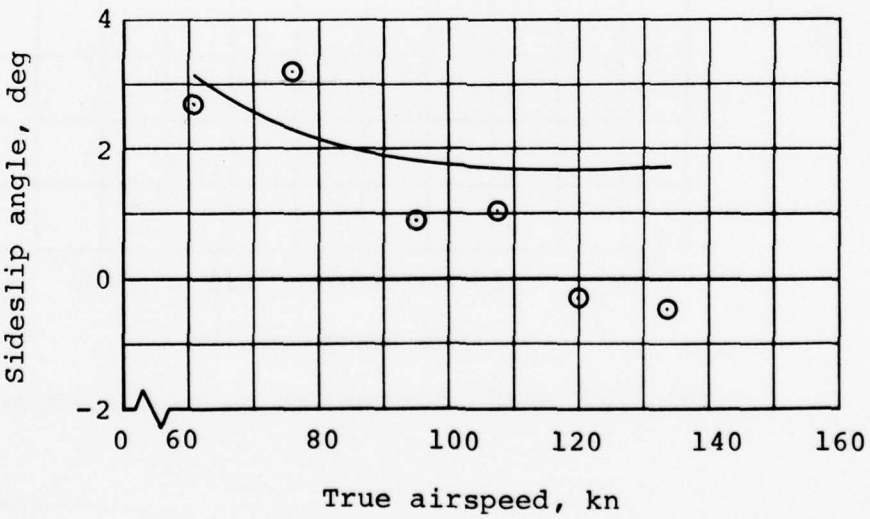
Figure C.2. Comparison of measured and computed level flight performance parameters (Flight 36A, HOG configuration, 9070-lb gross weight, neutral cg station 196.2).



(b) Angle of attack vs true airspeed

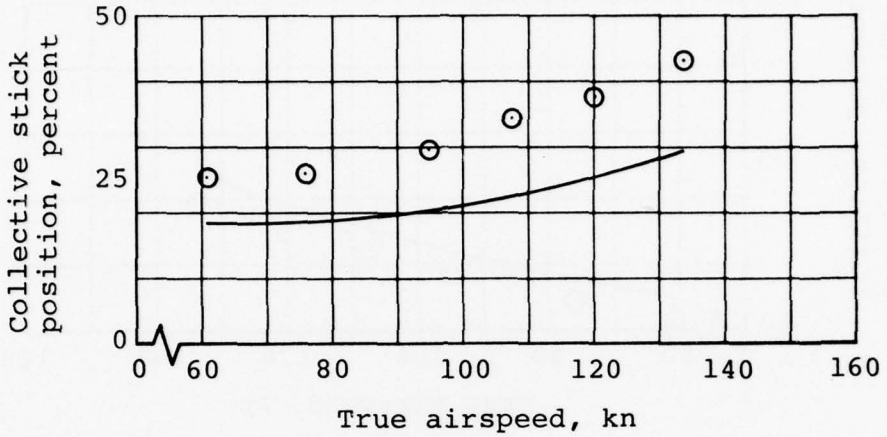
— Theory

○ Test



(c) Sideslip angle vs true airspeed

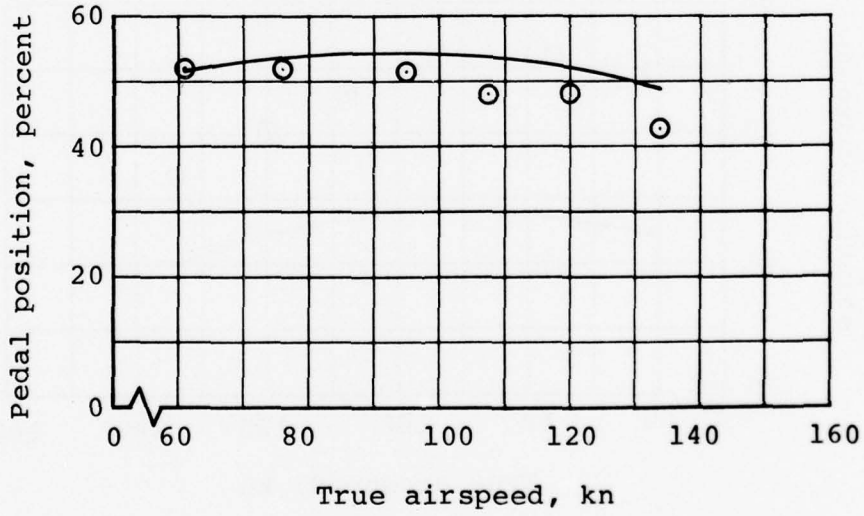
Figure C.2 (Continued)



(d) Collective stick position vs true airspeed

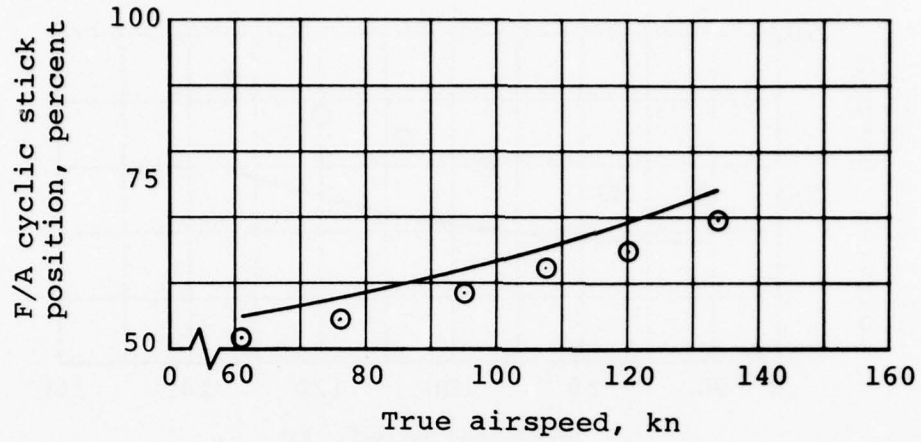
—Theory

O Test



(e) Pedal position vs true airspeed

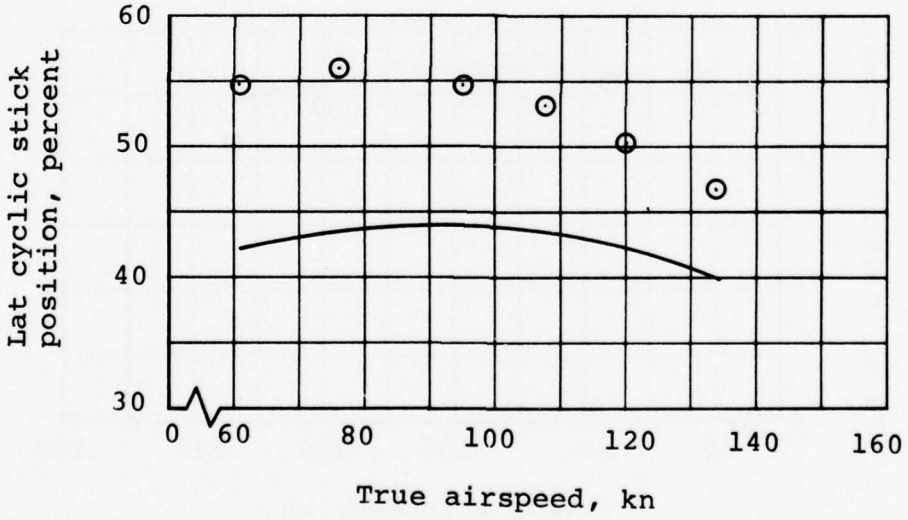
Figure C.2 (Continued)



(f) F/A cyclic stick position vs true airspeed

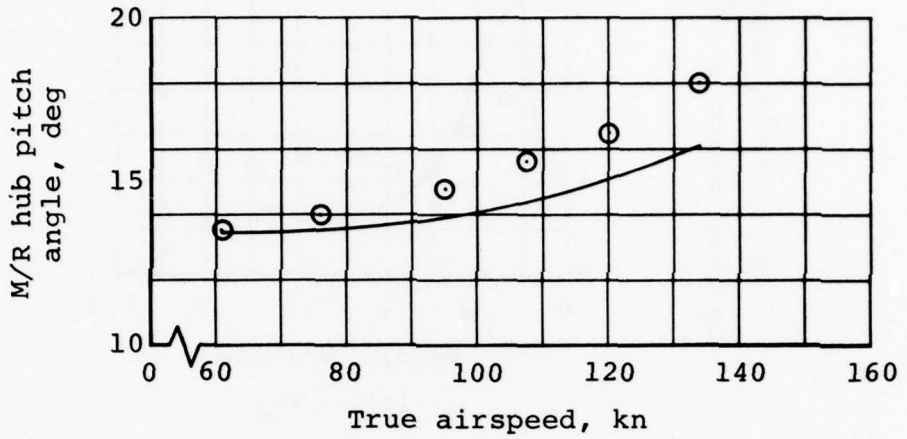
— Theory

○ Test



(g) Lateral cyclic stick position vs. true airspeed

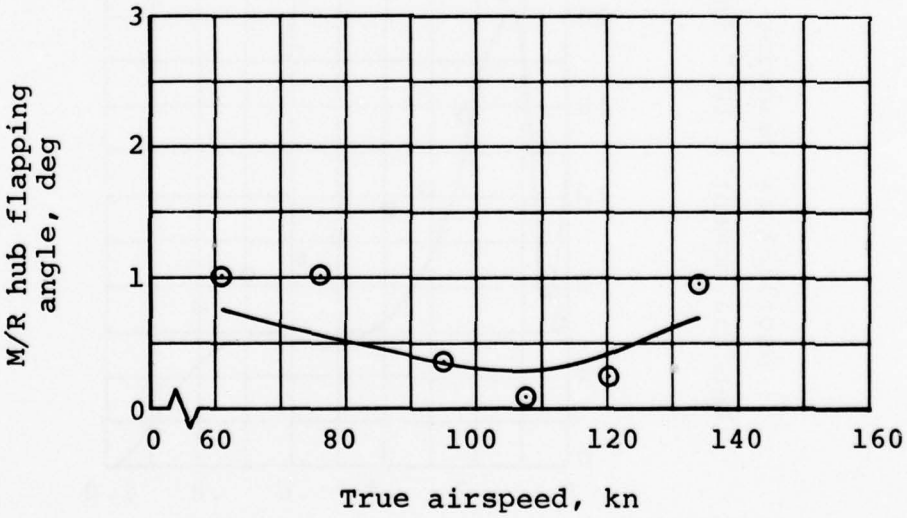
Figure C.2 (Continued)



(h) M/R hub pitch angle vs true airspeed

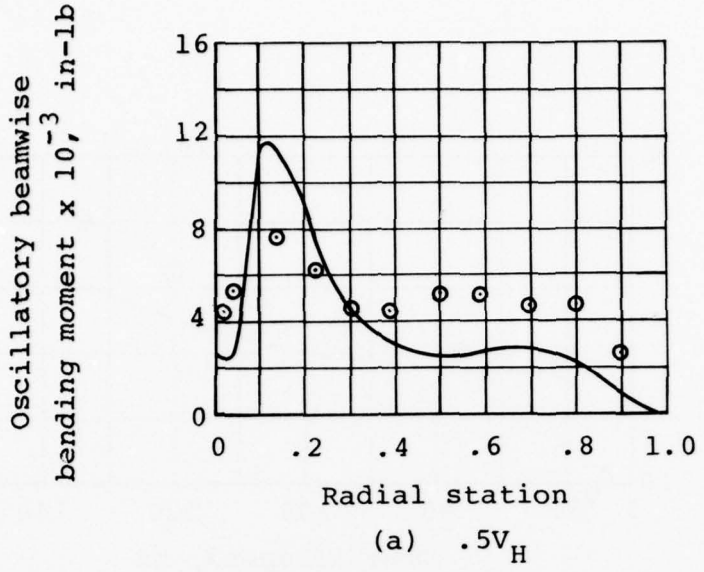
—— Theory

○ Test



(i) M/R hub flapping angle vs true airspeed

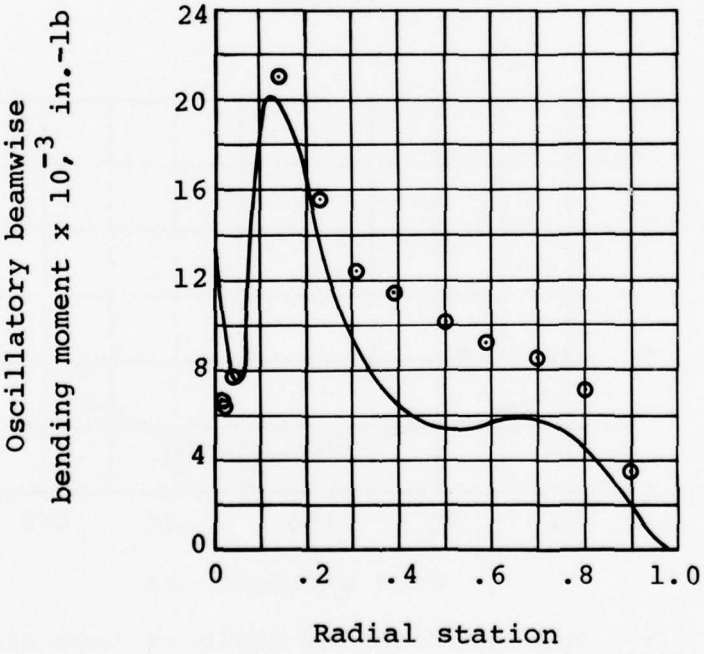
Figure C.2 (Concluded)



(a) $.5V_H$

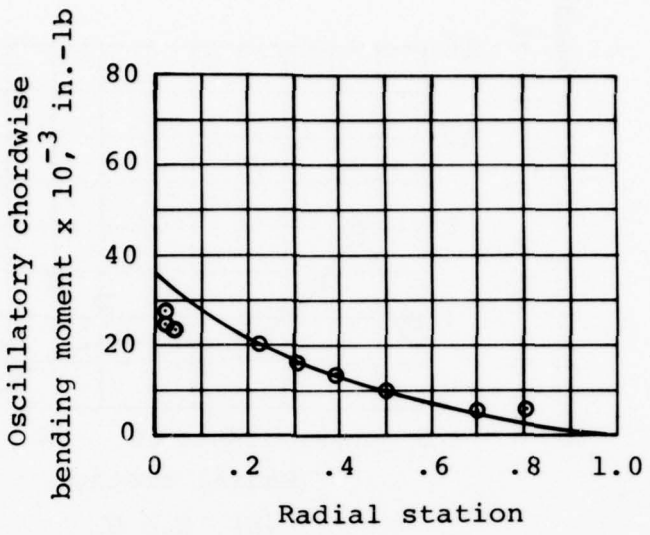
—Theory

O Test



(b) V_H

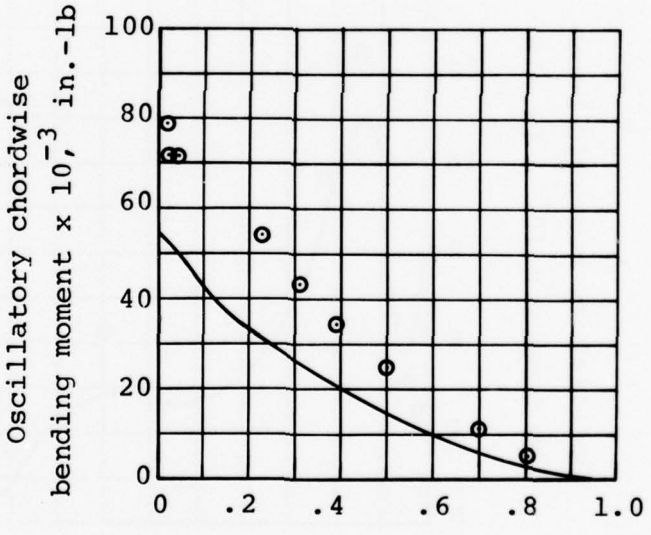
Figure C.3 Comparison of measured and computed rotor bending moments (clean wing configuration, 8320-lb gross weight, aft cg).



(c) 0.5 V_H

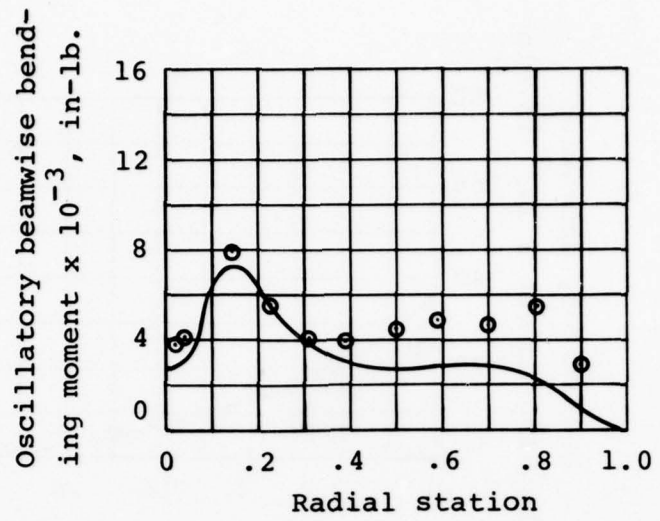
— Theory

O Test



(d) V_H

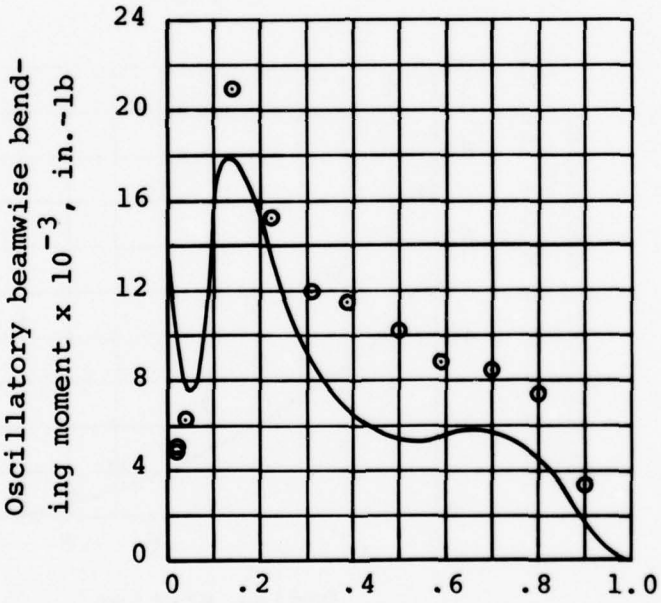
Figure C.3 (Concluded)



(a) 0.5 V_H

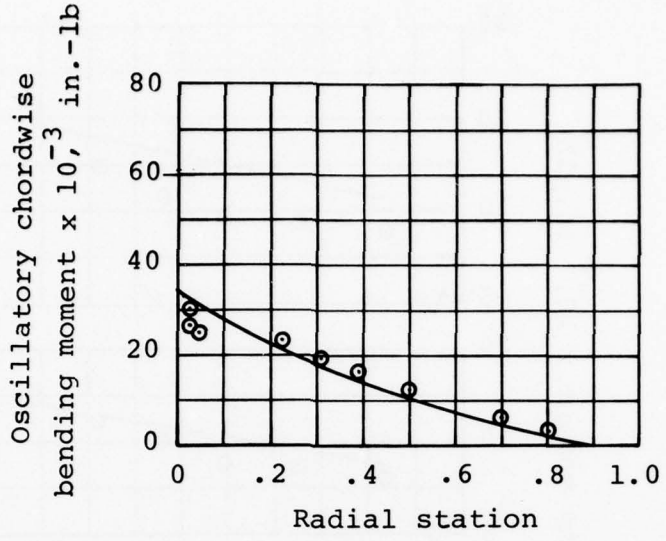
—Theory

O Test



(b) V_H

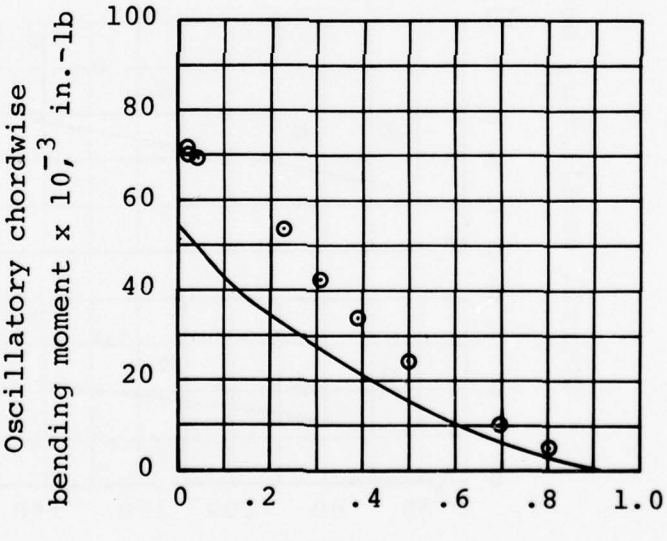
Figure C.4 Comparison of measured and computed rotor bending moments, (134 Kn) (HOG configuration, 9070-lb gross weight, neutral cg).



(c) 0.5 V_H

—Theory

O Test



(d) V_H

Figure C.4 (Concluded)

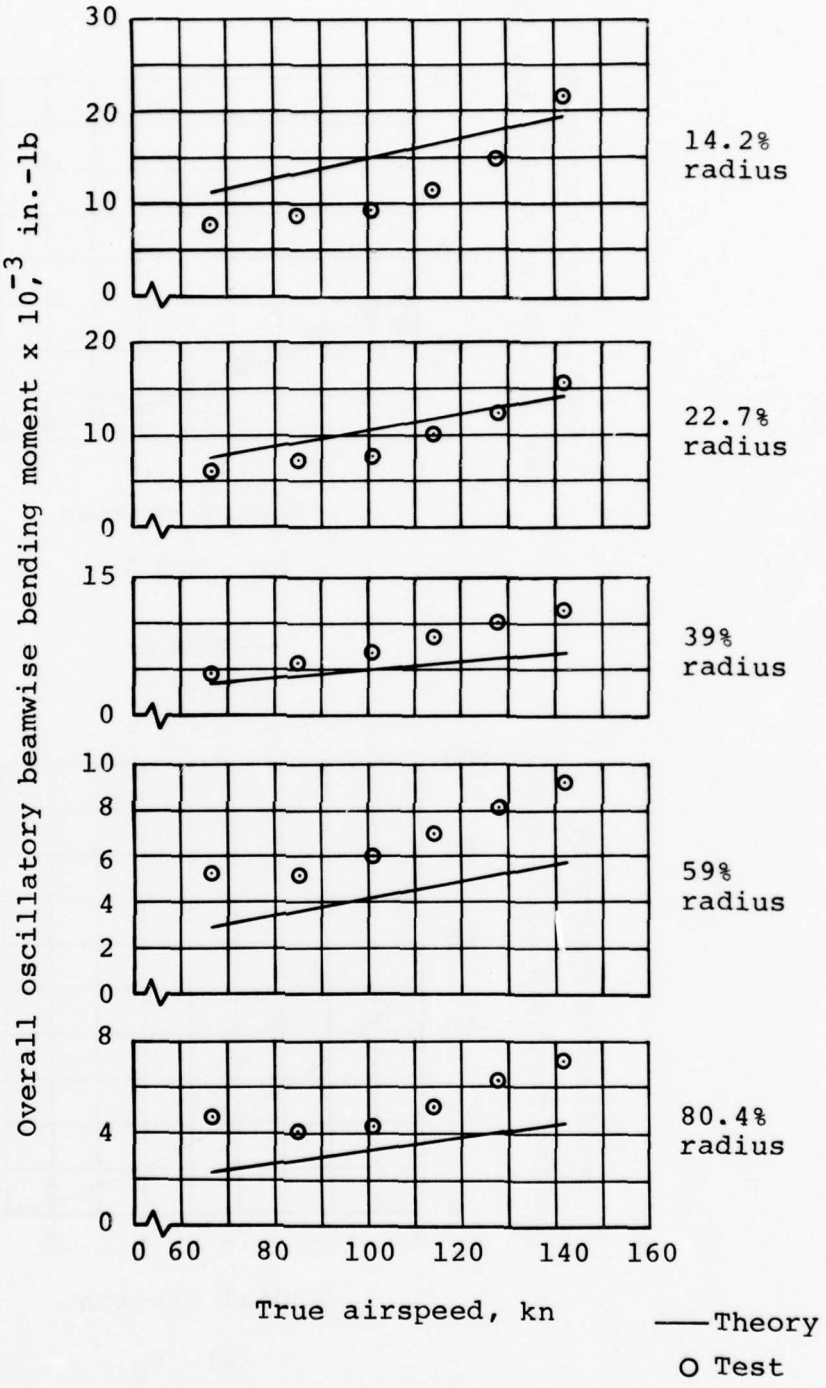


Figure C.5. Comparison of measured and computed oscillatory beamwise bending moments versus airspeed (Flight 35A, clean wing configuration, 8320-lb gross weight, aft cg).

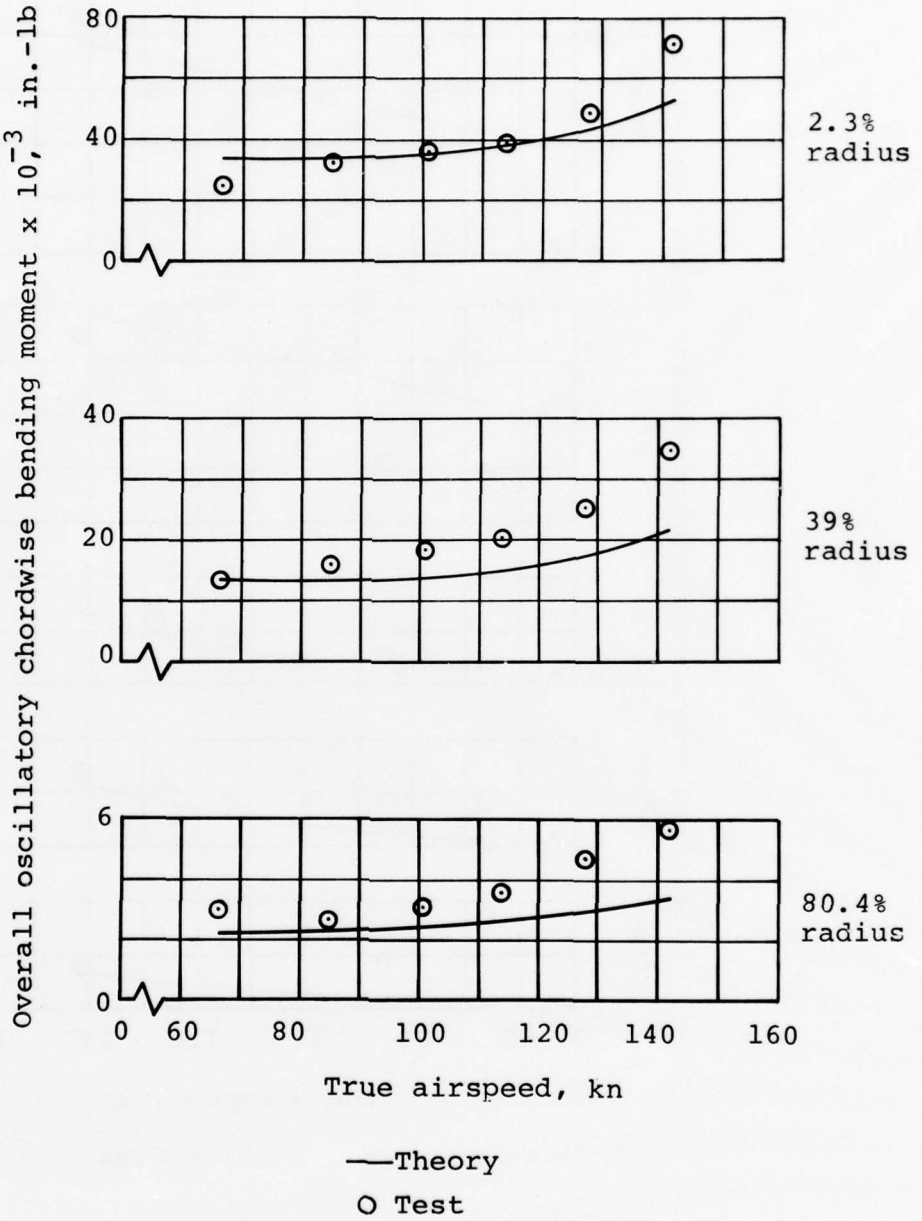
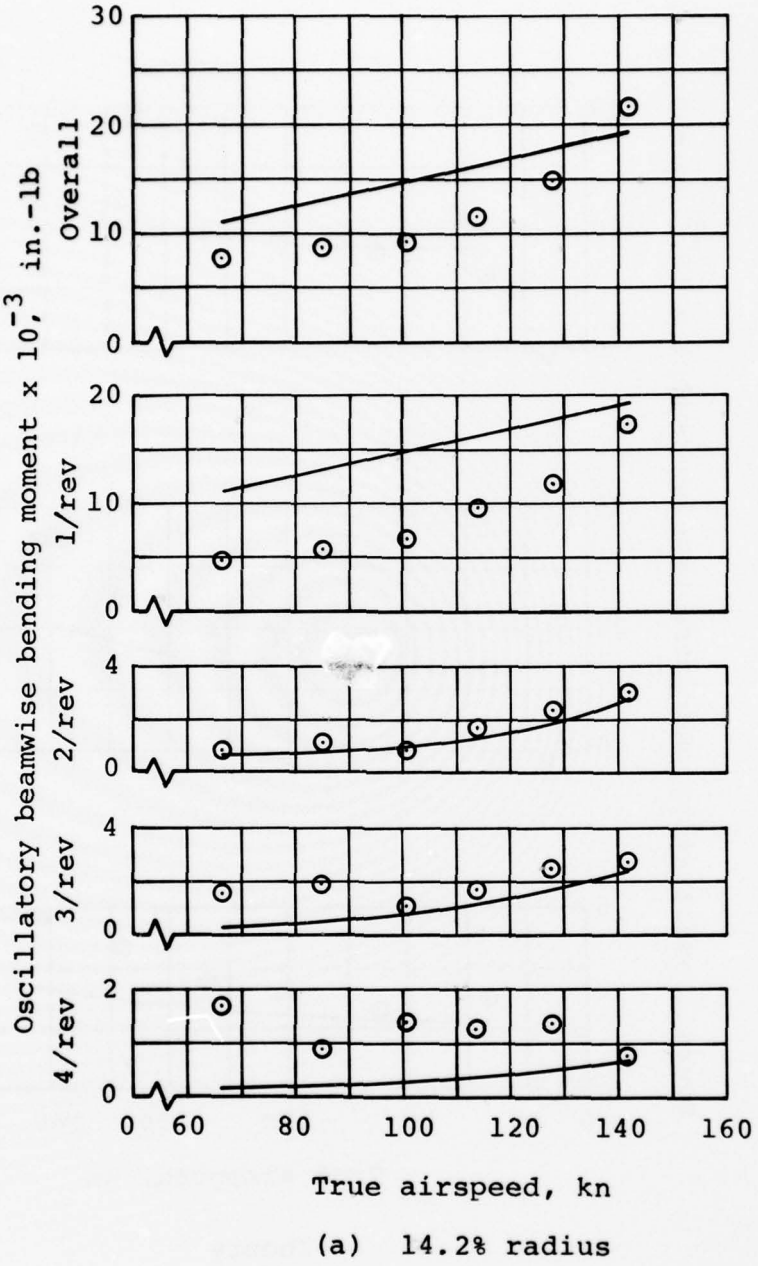


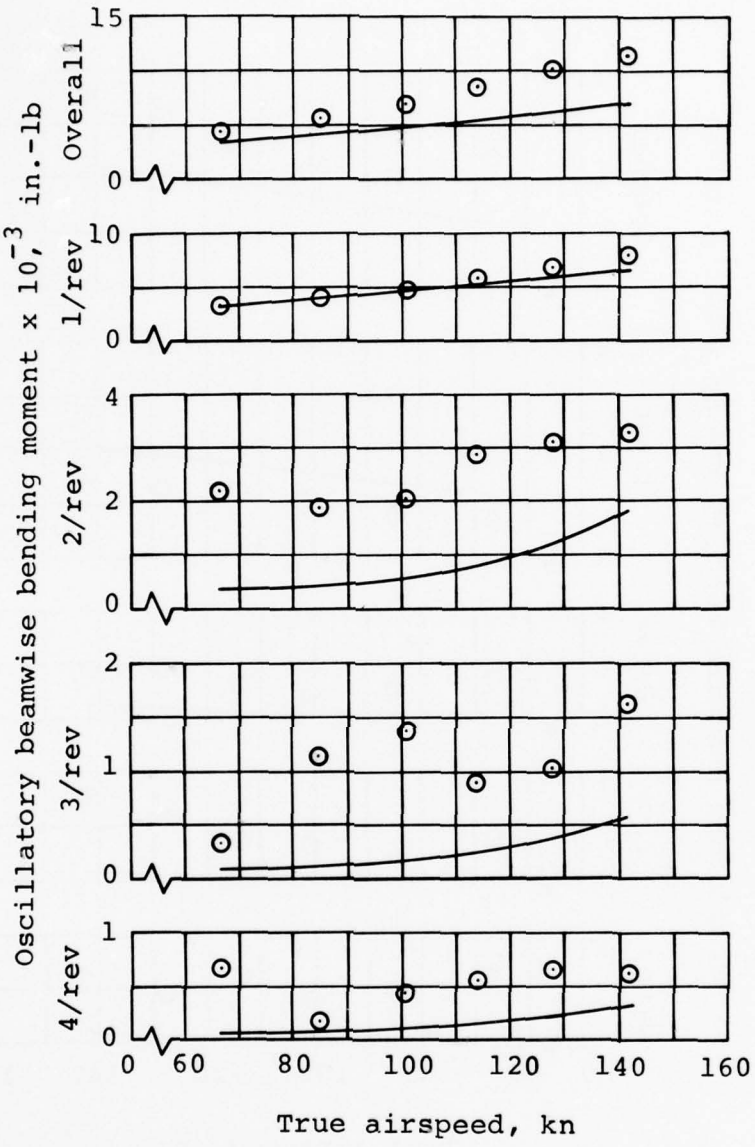
Figure C.6. Comparison of measured and computed oscillatory chordwise bending moments versus airspeed (Flight 35A, clean wing configuration, 8320-lb gross weight, aft cg).



(a) 14.2% radius

—— Theory
O Test

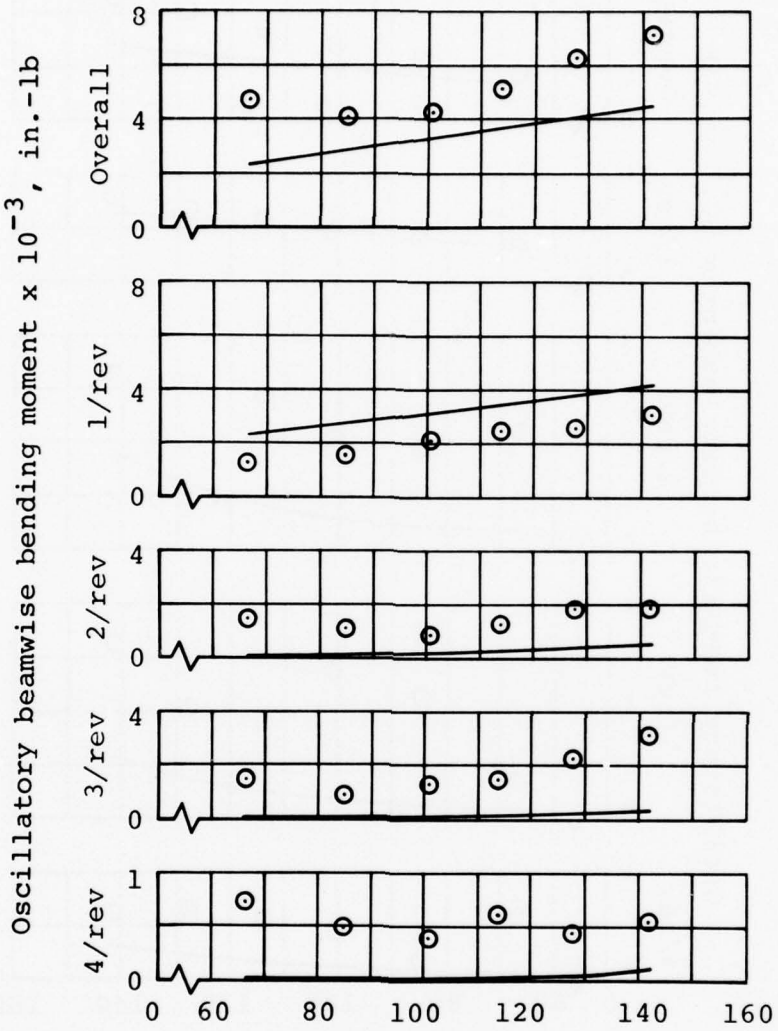
Figure C.7. Measured and computed oscillatory beamwise bending moment harmonic components versus airspeed (Flight 35A, clean wing configuration, 8320-lb gross weight, aft cg).



(b) 39% radius

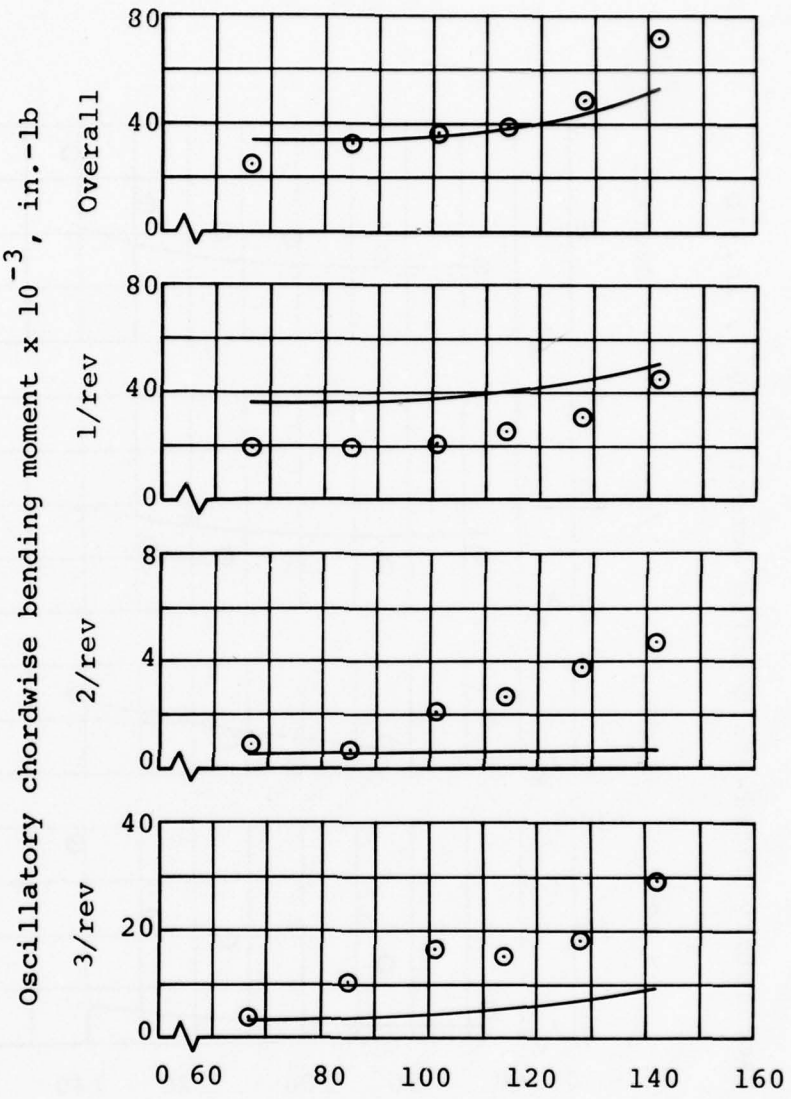
—— Theory
O Test

Figure C.7 (Continued)



(c) 80.3% radius

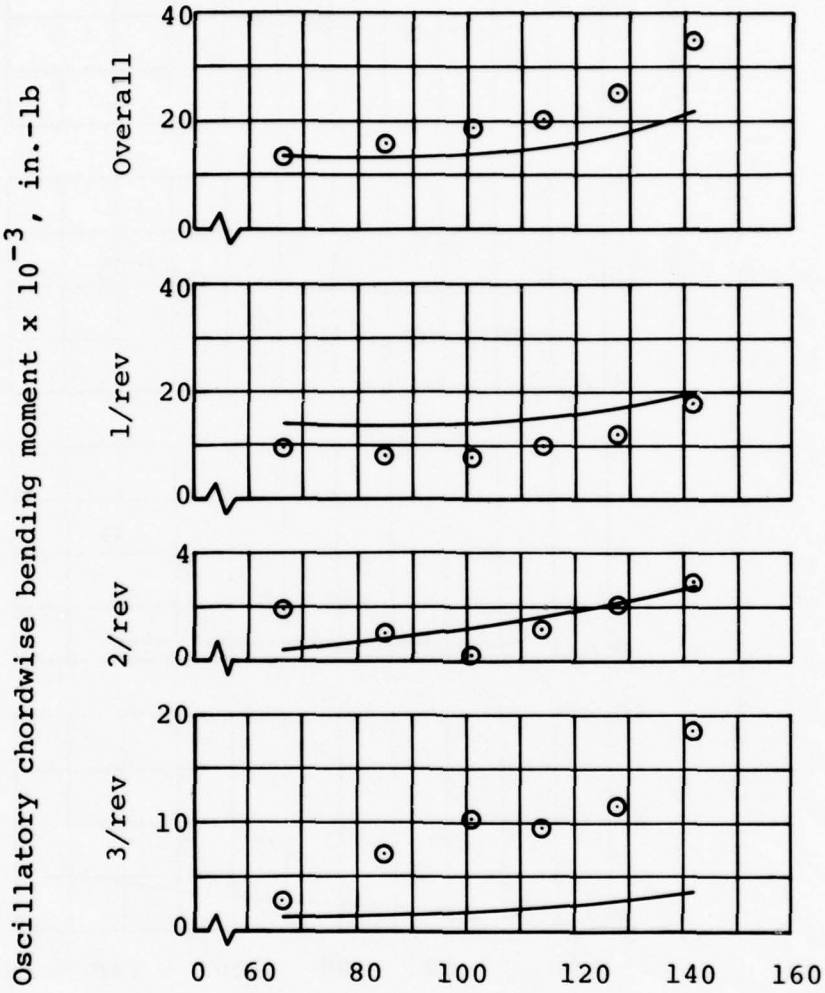
Figure C.7 (Concluded)



(a) 2.3% radius

—— Theory
O Test

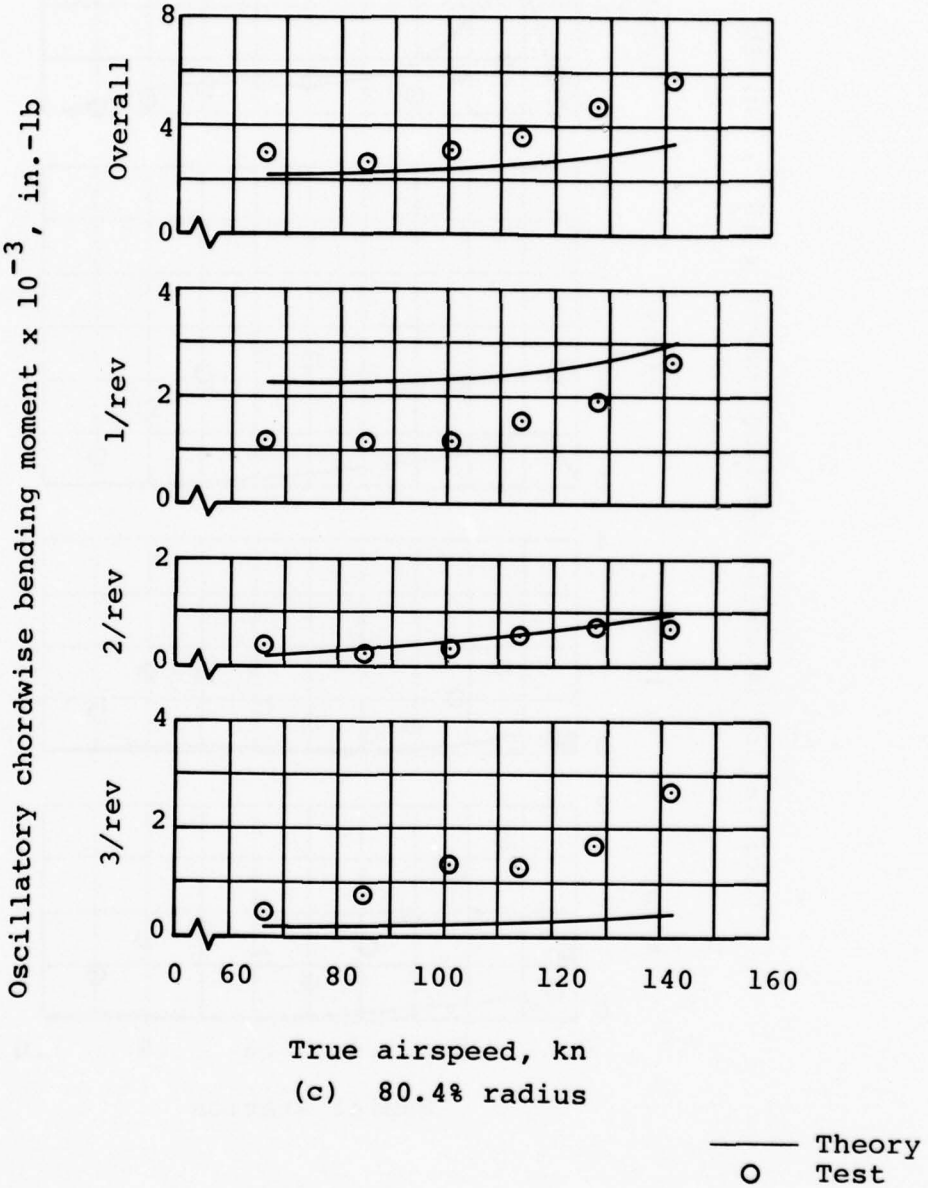
Figure C.8. Measured and computed oscillatory chordwise bending moment versus airspeed (Flight 35A, clean wing configuration, 8320-lb gross weight, aft cg).



(b) 39% radius

—— Theory
O Test

Figure C.8 (Continued)



(c) 80.4% radius

Figure C.8 (Concluded)

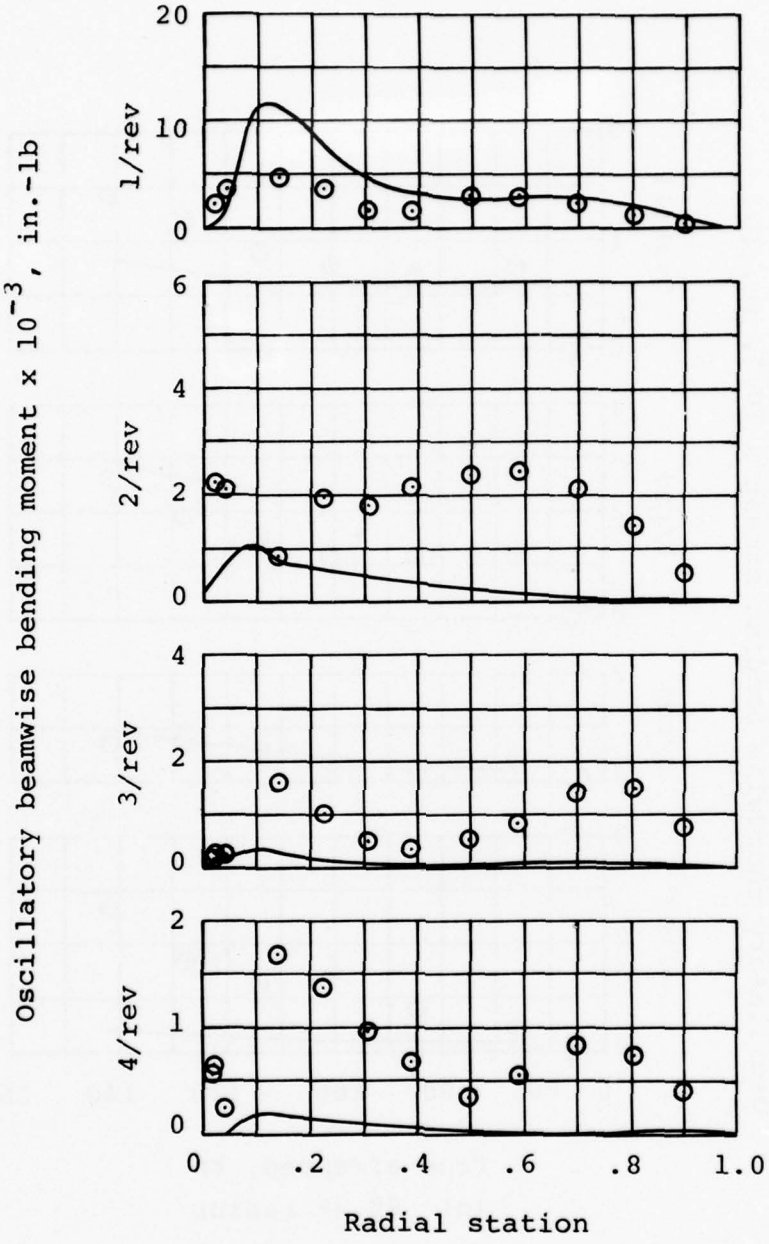


Figure C.9 Spanwise oscillatory beam bending moment harmonics at .5V_H and V_H (clean wing configuration, 8320-lb gross weight, aft cg).

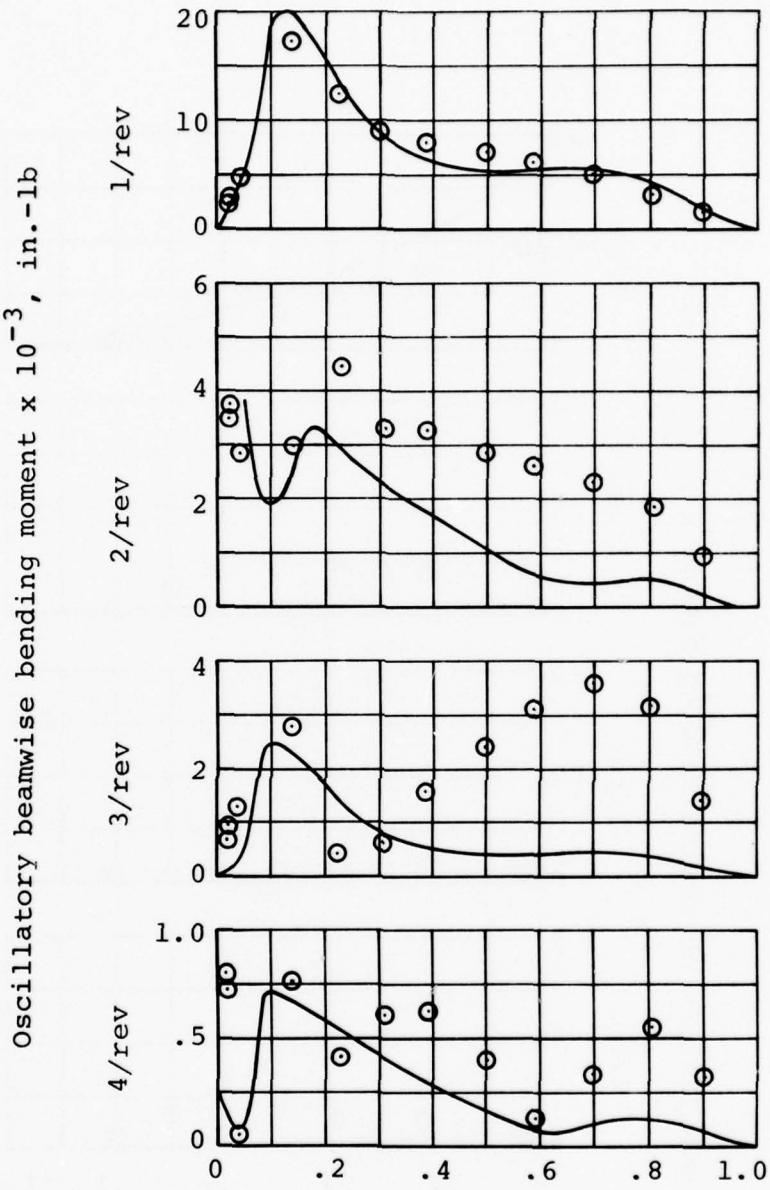
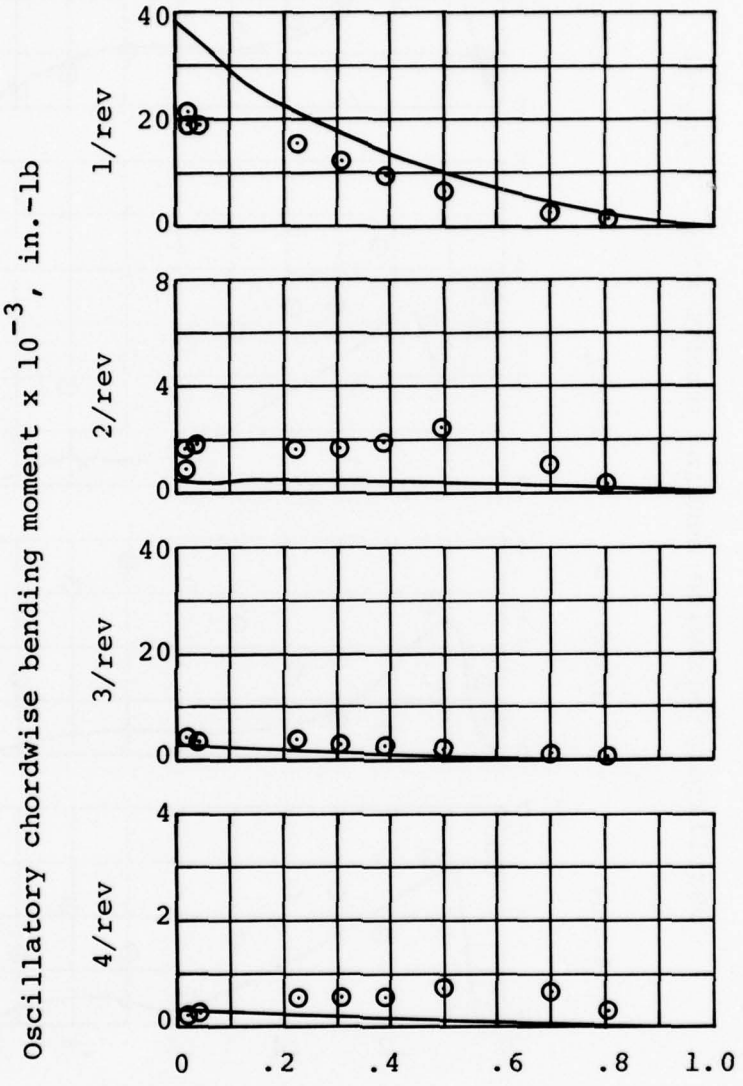


Figure C.9 (Concluded)



(a) .5 V_H

Figure C.10. Spanwise oscillatory chord bending moment harmonics at .5V_H and V_H (clean wing configuration, 8320-lb gross weight, aft cg).

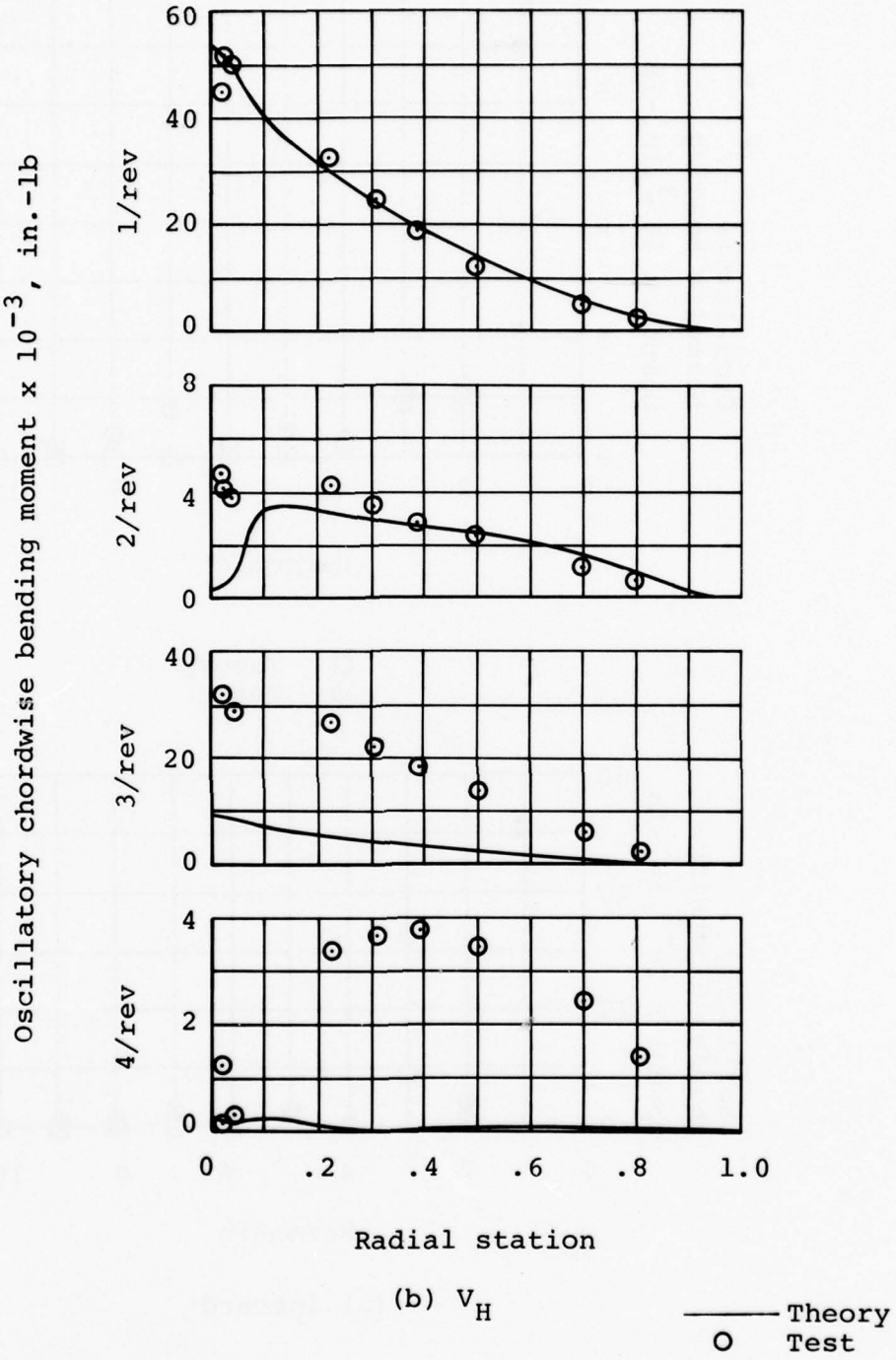
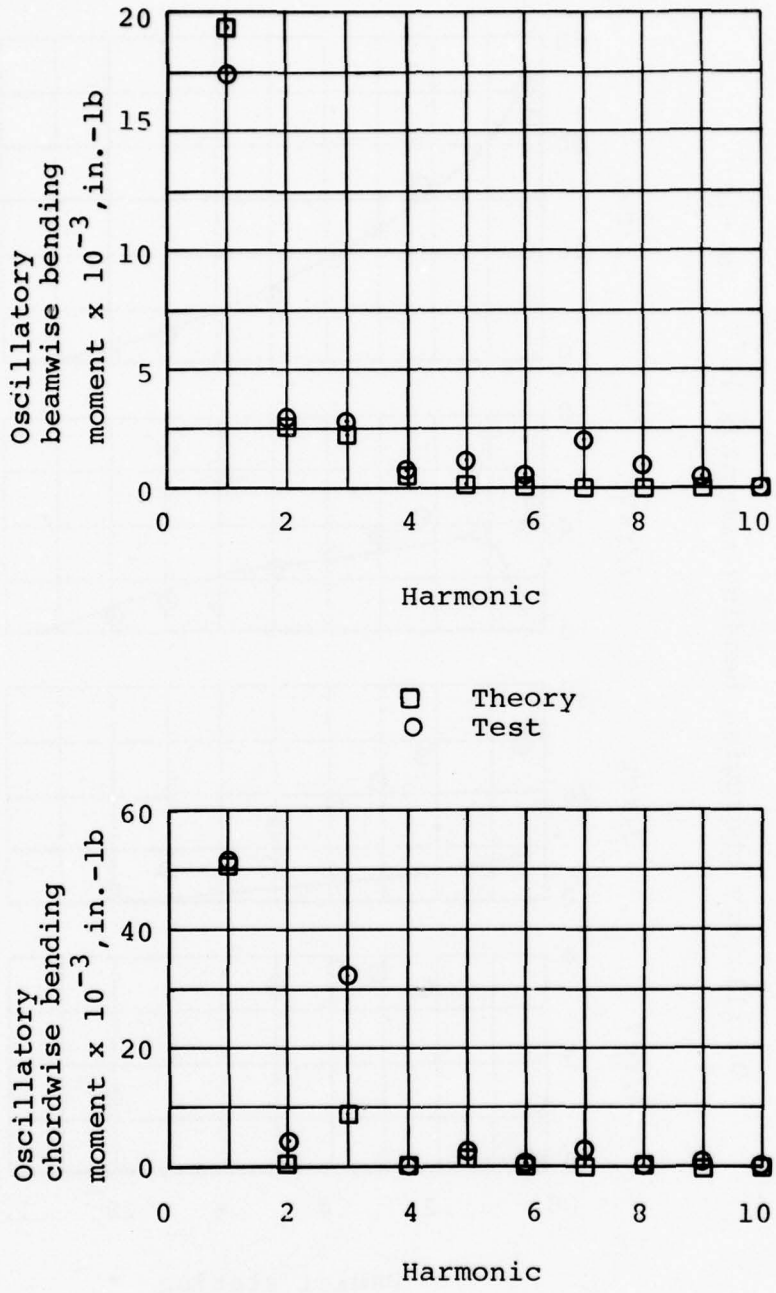
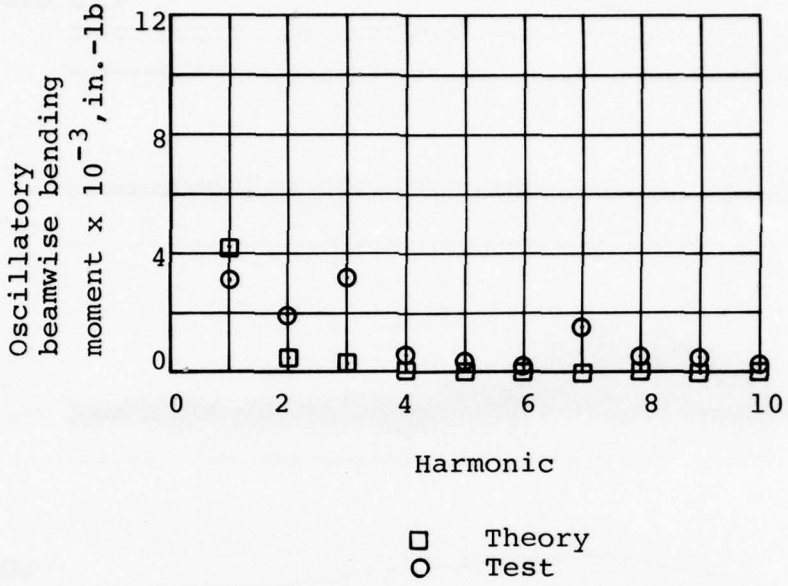


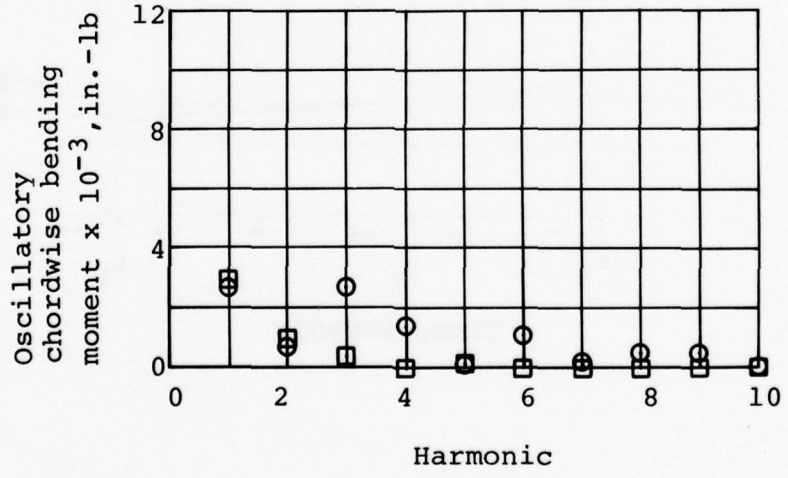
Figure C.10 (Concluded)



(a) Inboard

Figure C.11. Bending moment harmonics for inboard and outboard span locations at V_H (clean wing configuration, 8320-lb gross weight, aft cg).





(b) Outboard

Figure C.11 (Concluded)

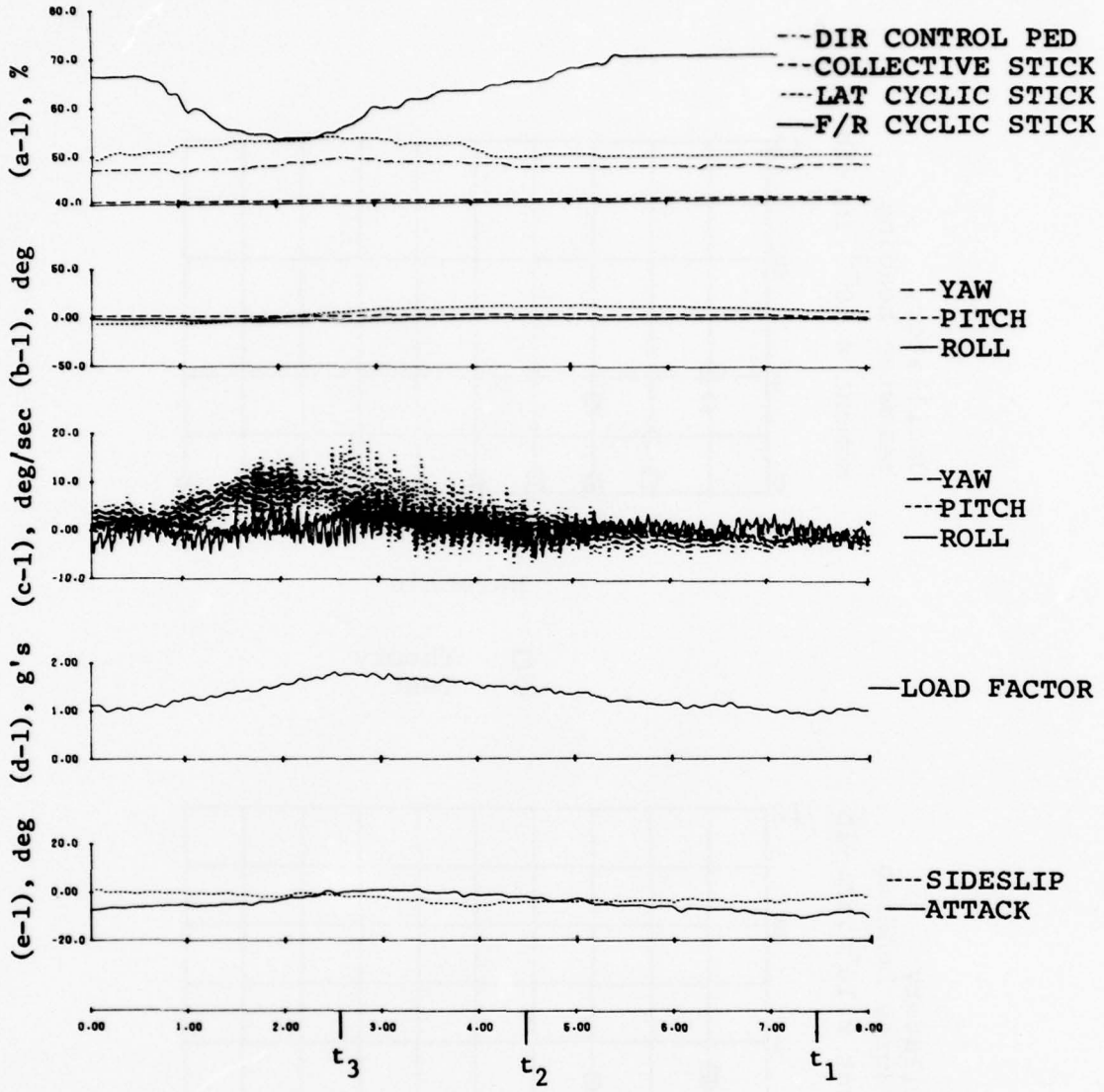


Figure C.12 Comparisons of measured and computed time histories of a 1.8g symmetric pullup, flight 32, counter 562.

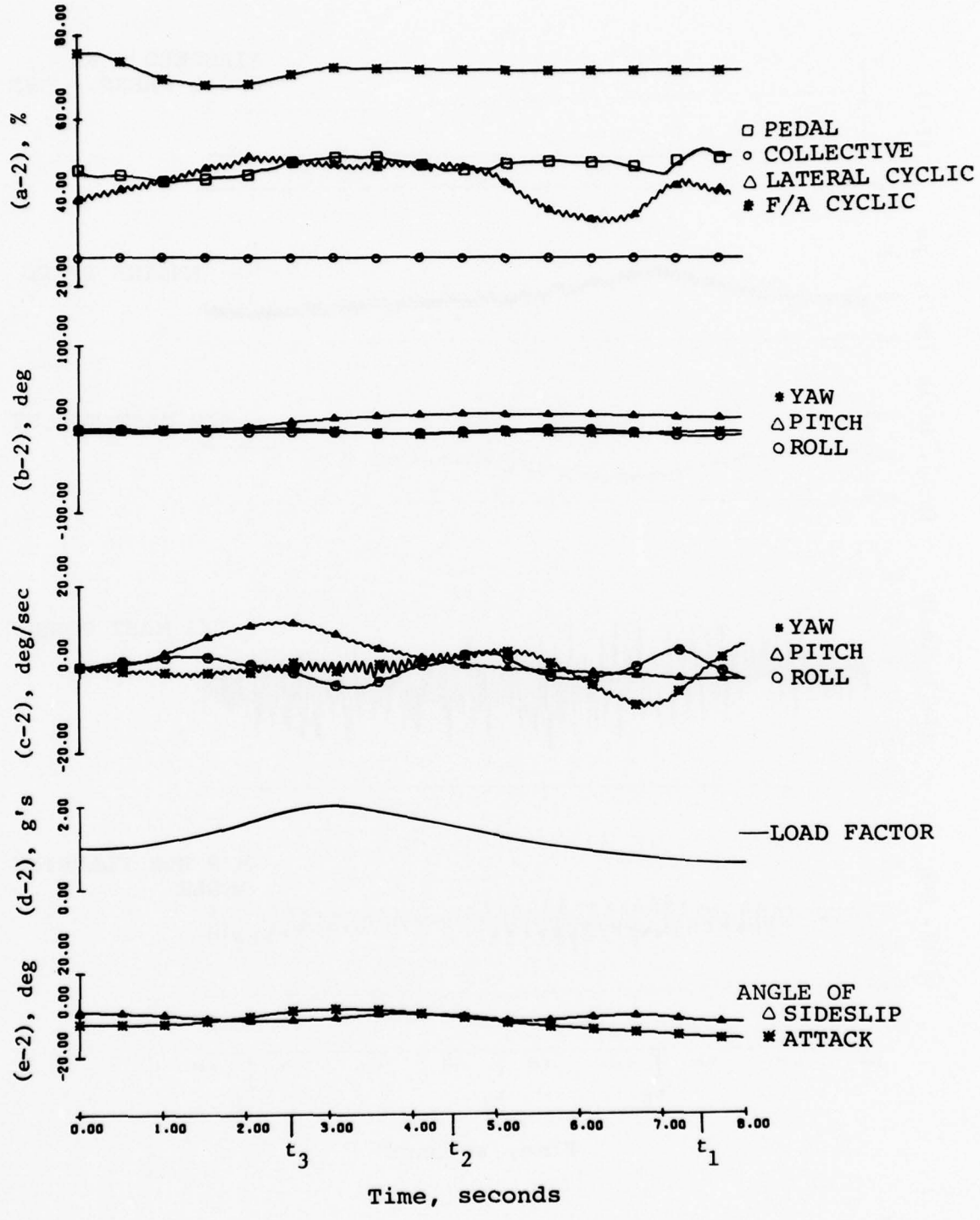


Figure C.12 (Continued)

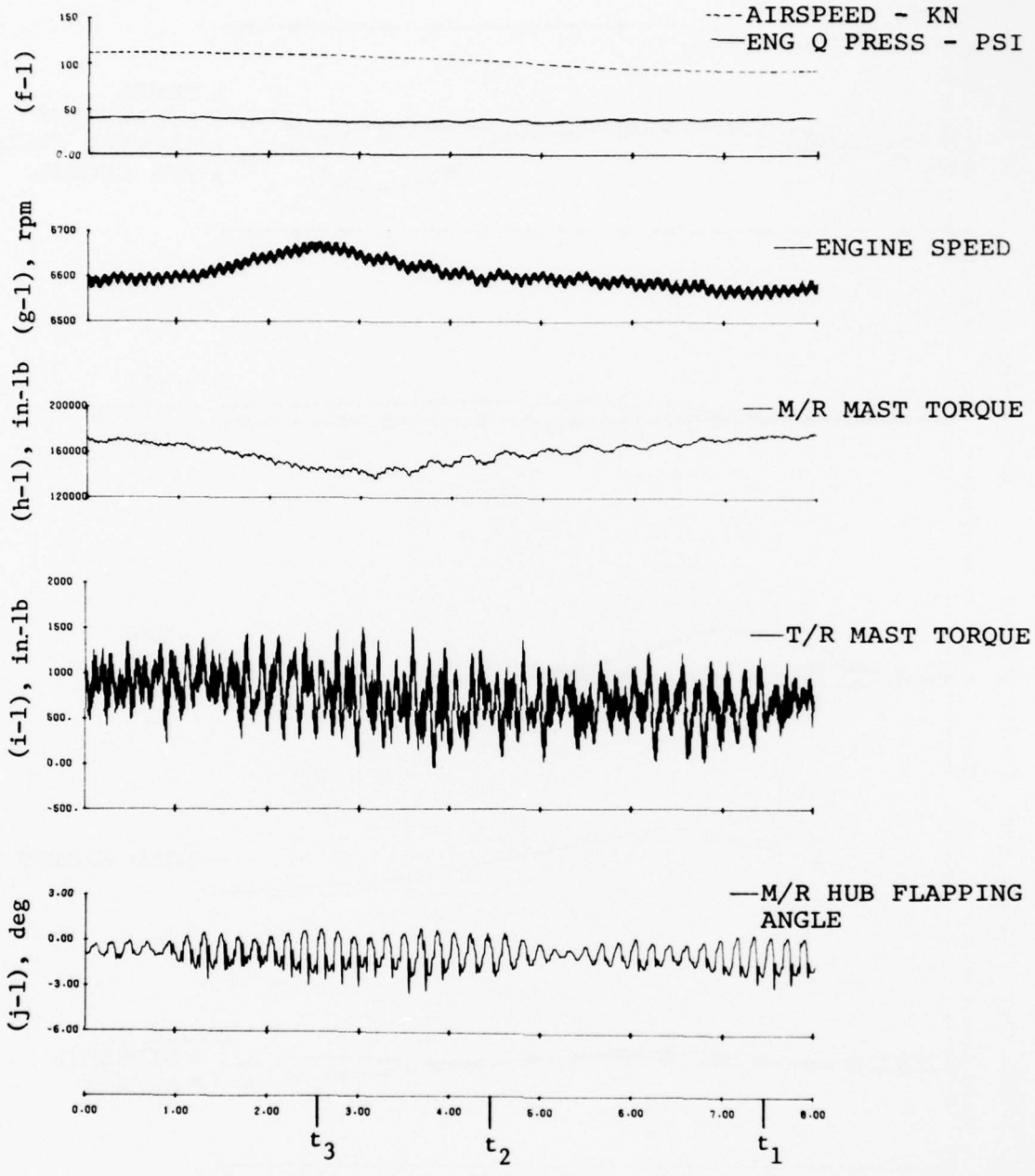


Figure C.12 (Continued)

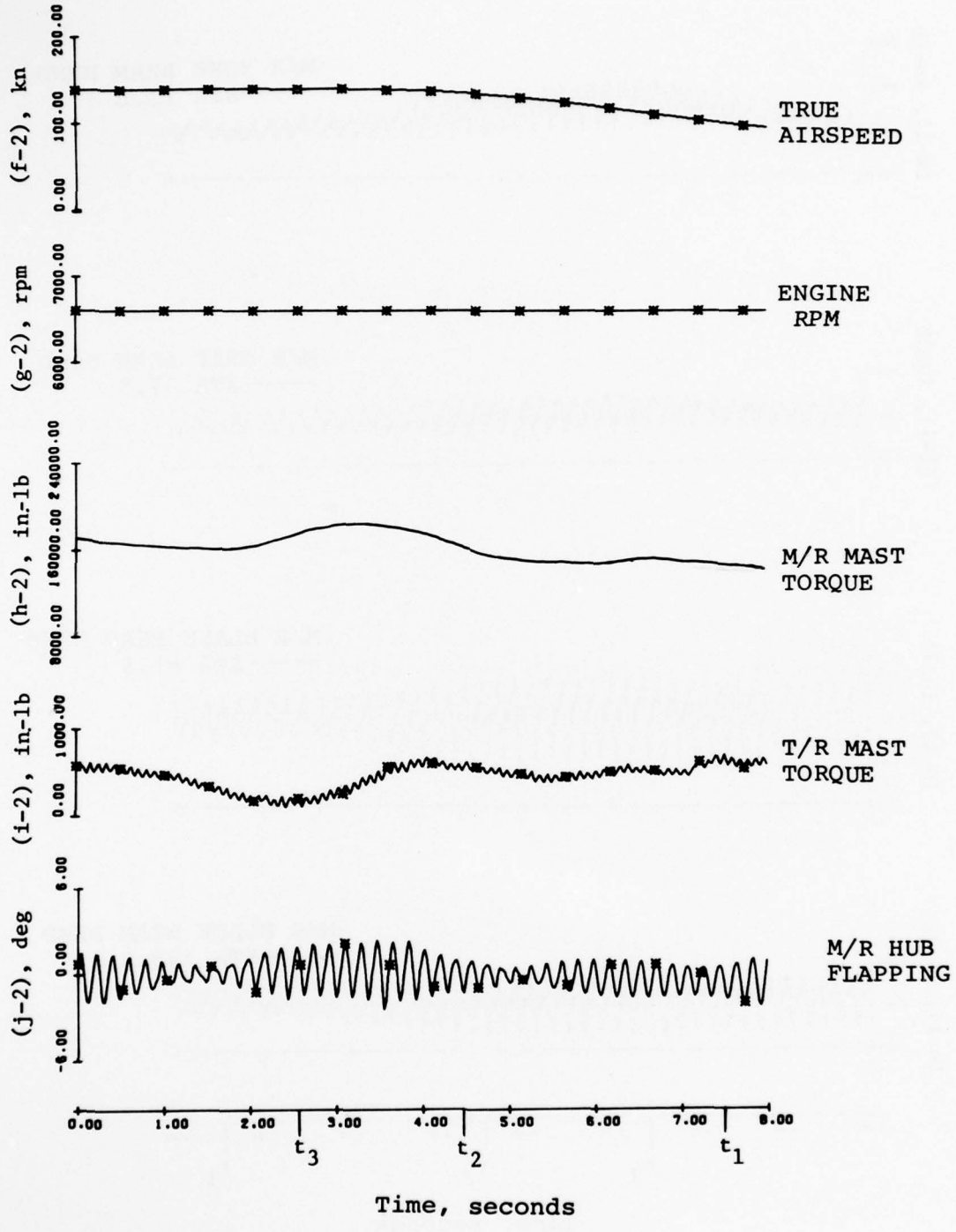


Figure C.12 (Continued)

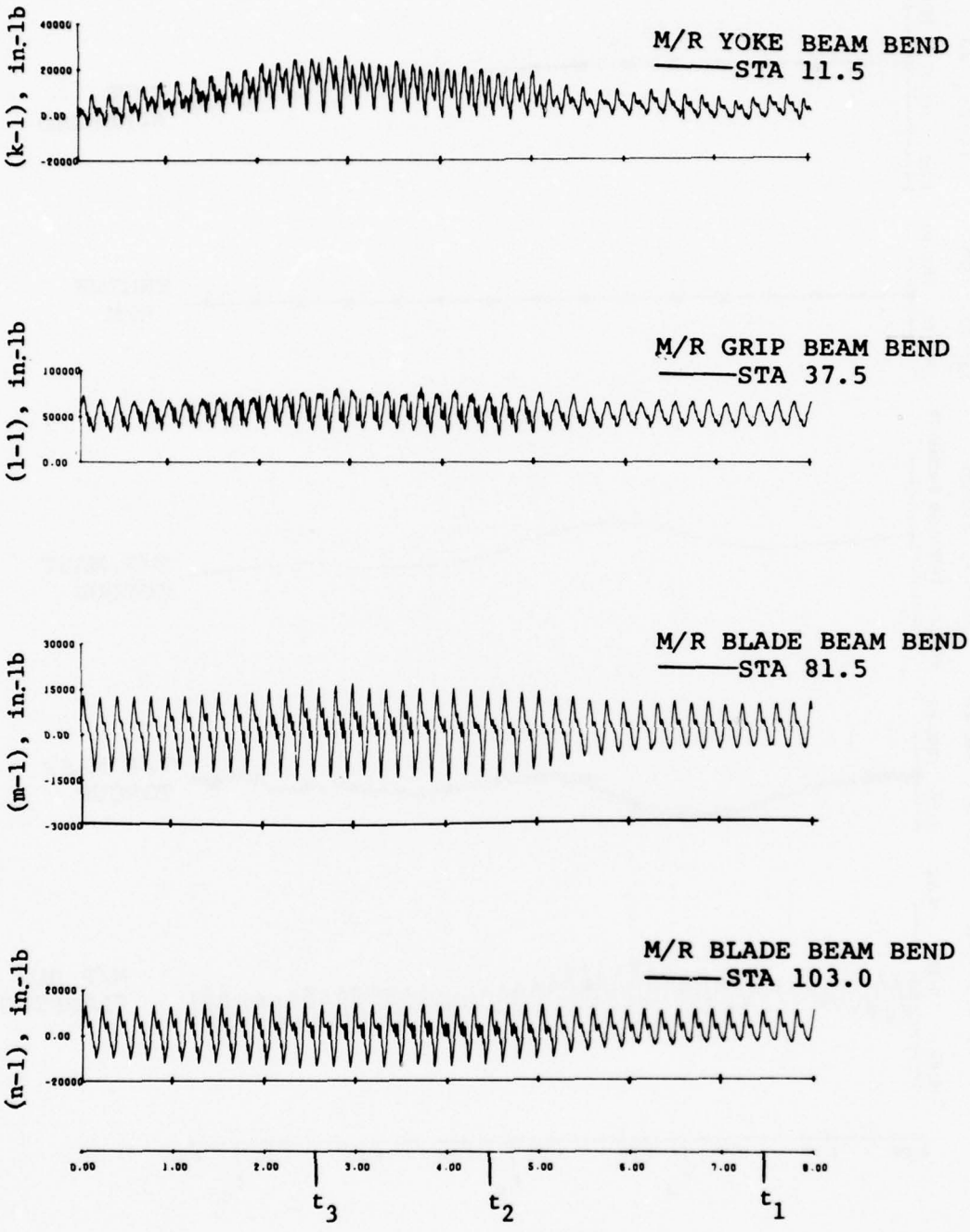


Figure C.12 (Continued)

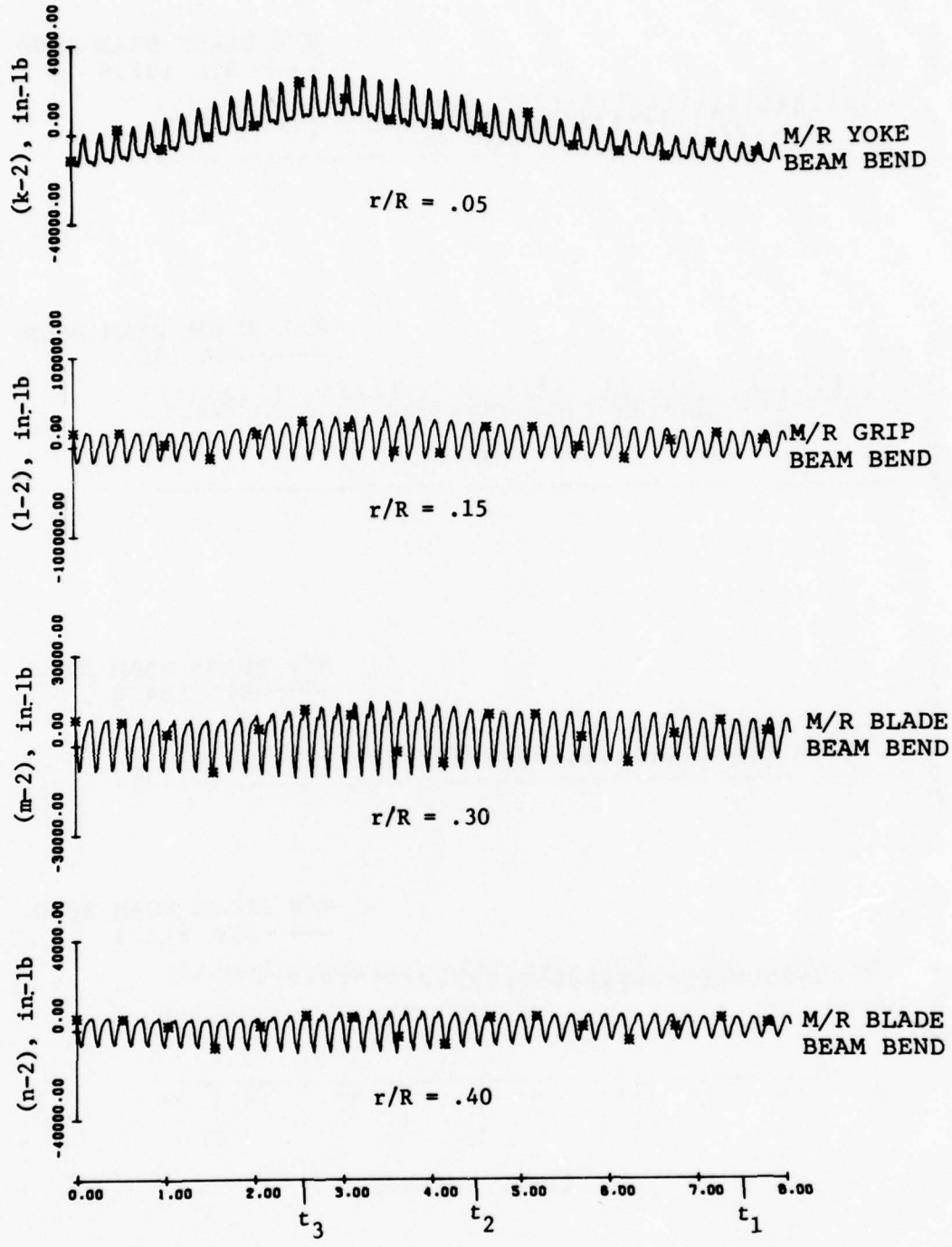


Figure C.12 (Continued)

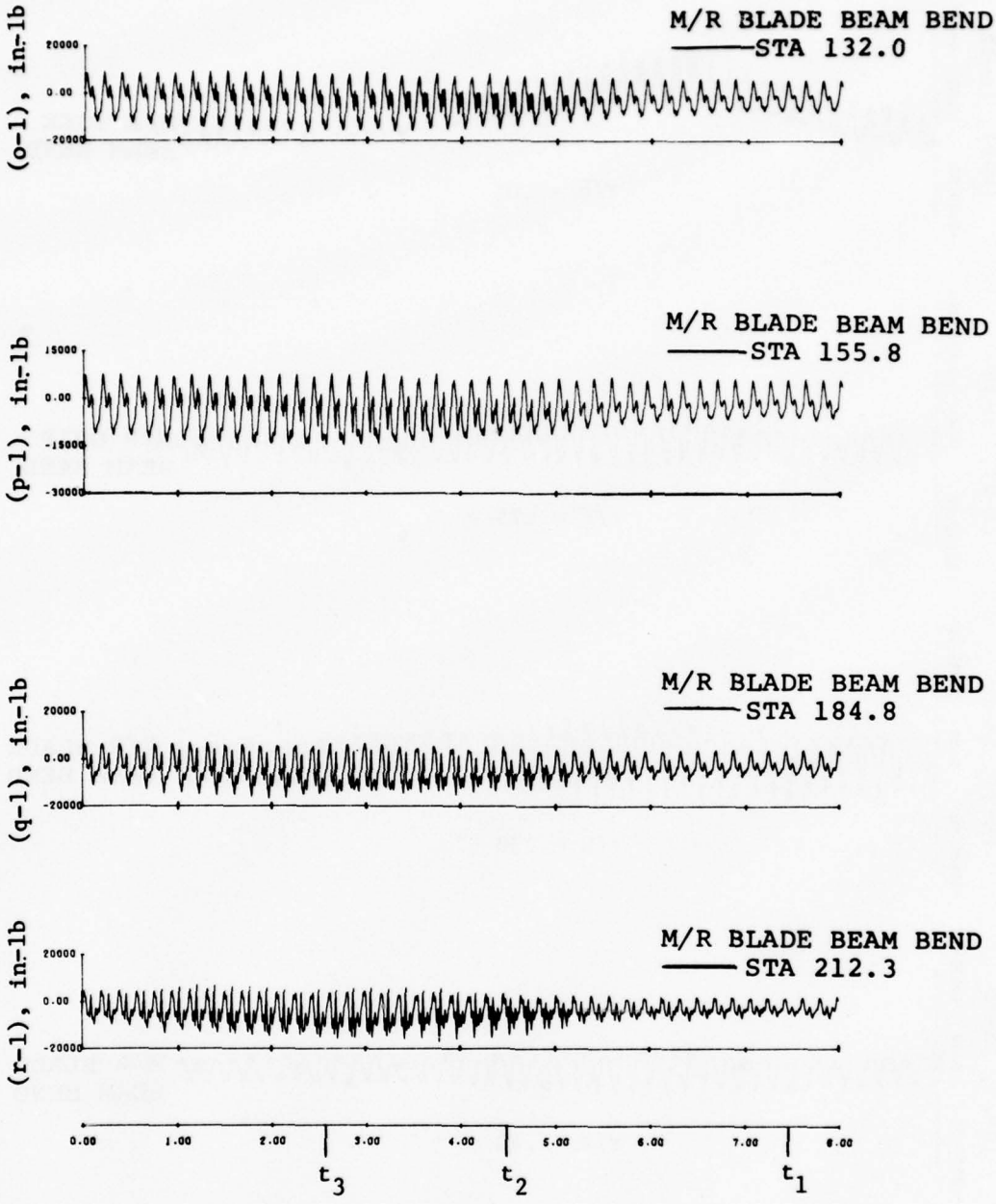


Figure C.12 (Continued)

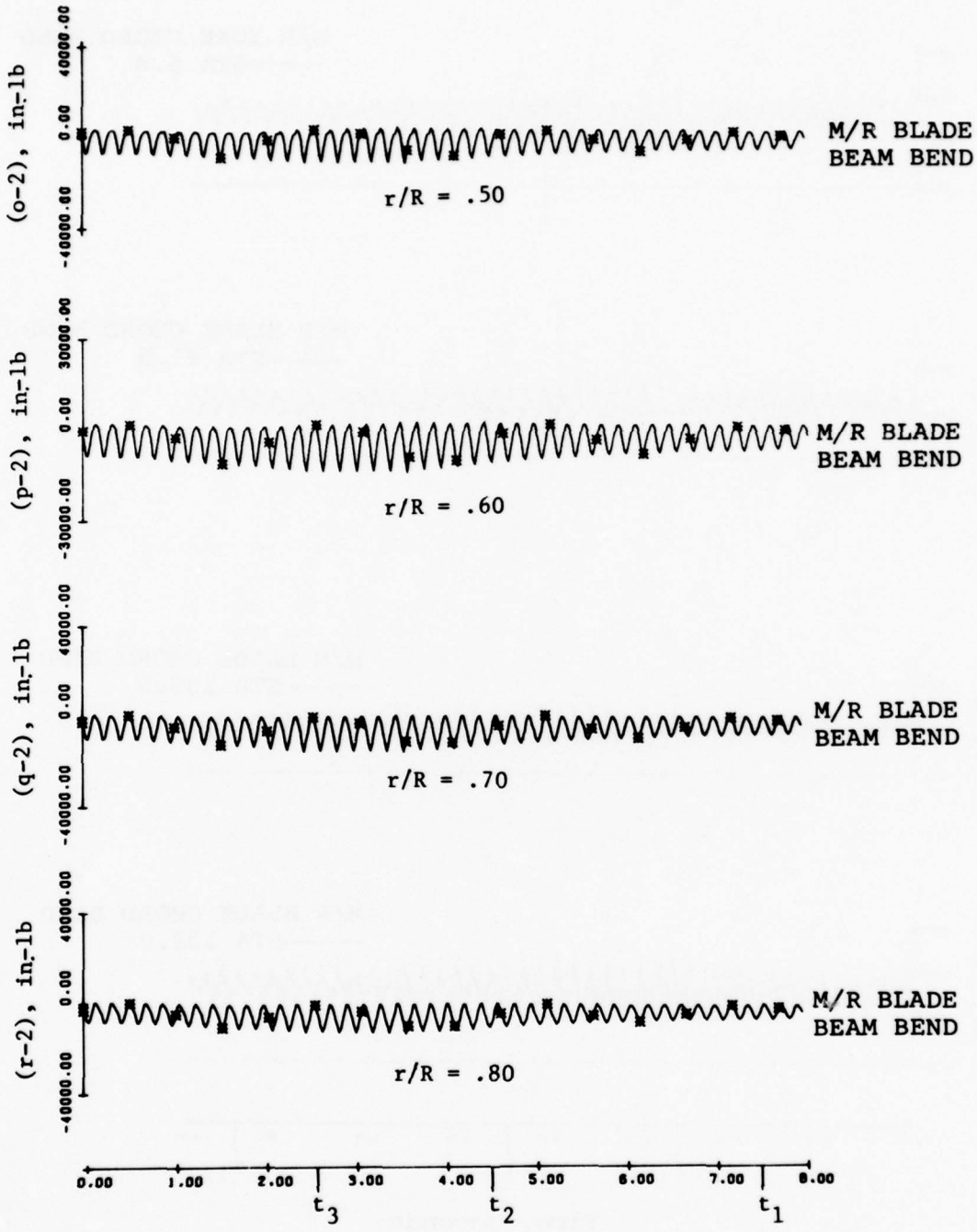


Figure C.12 (Continued)

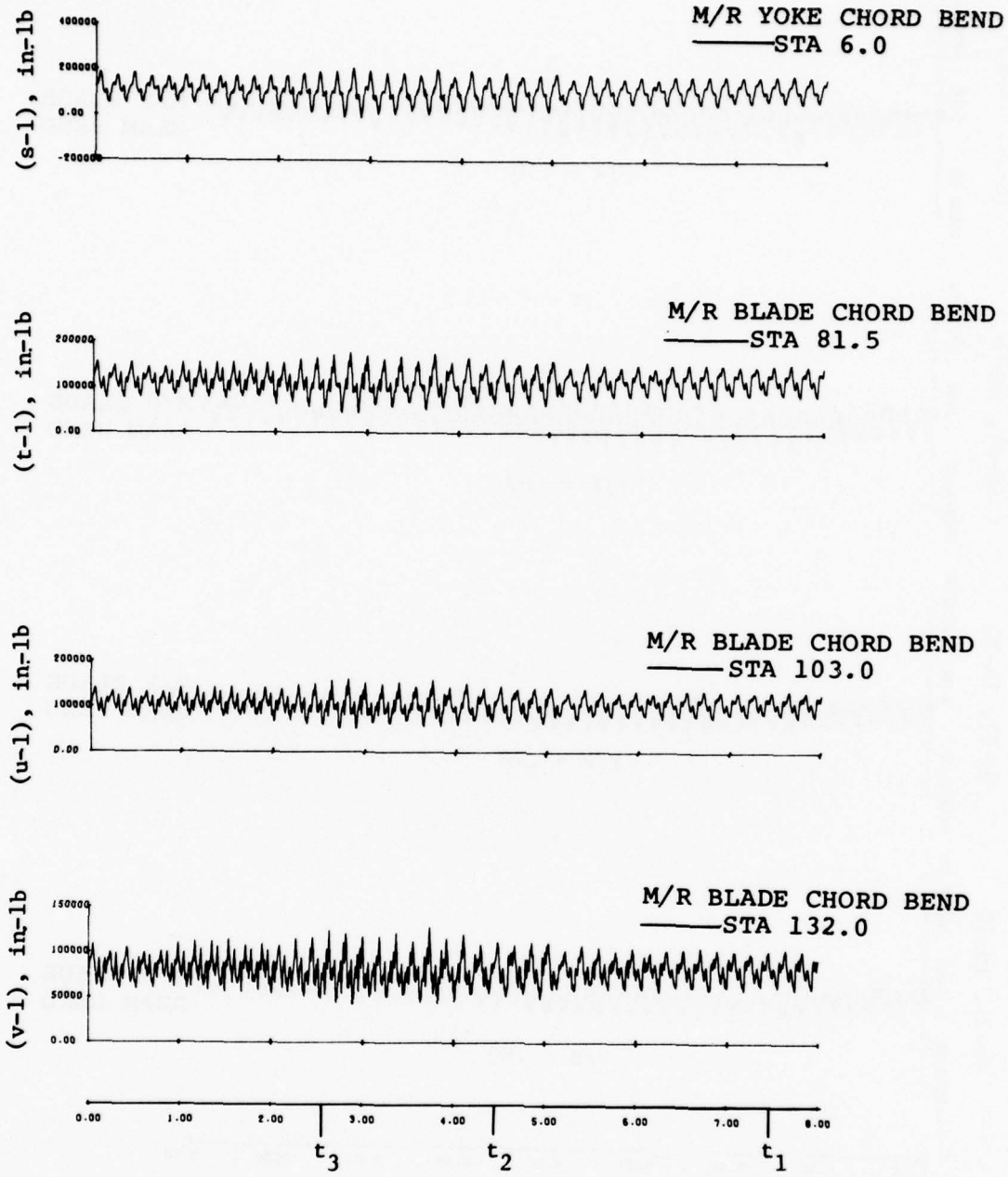


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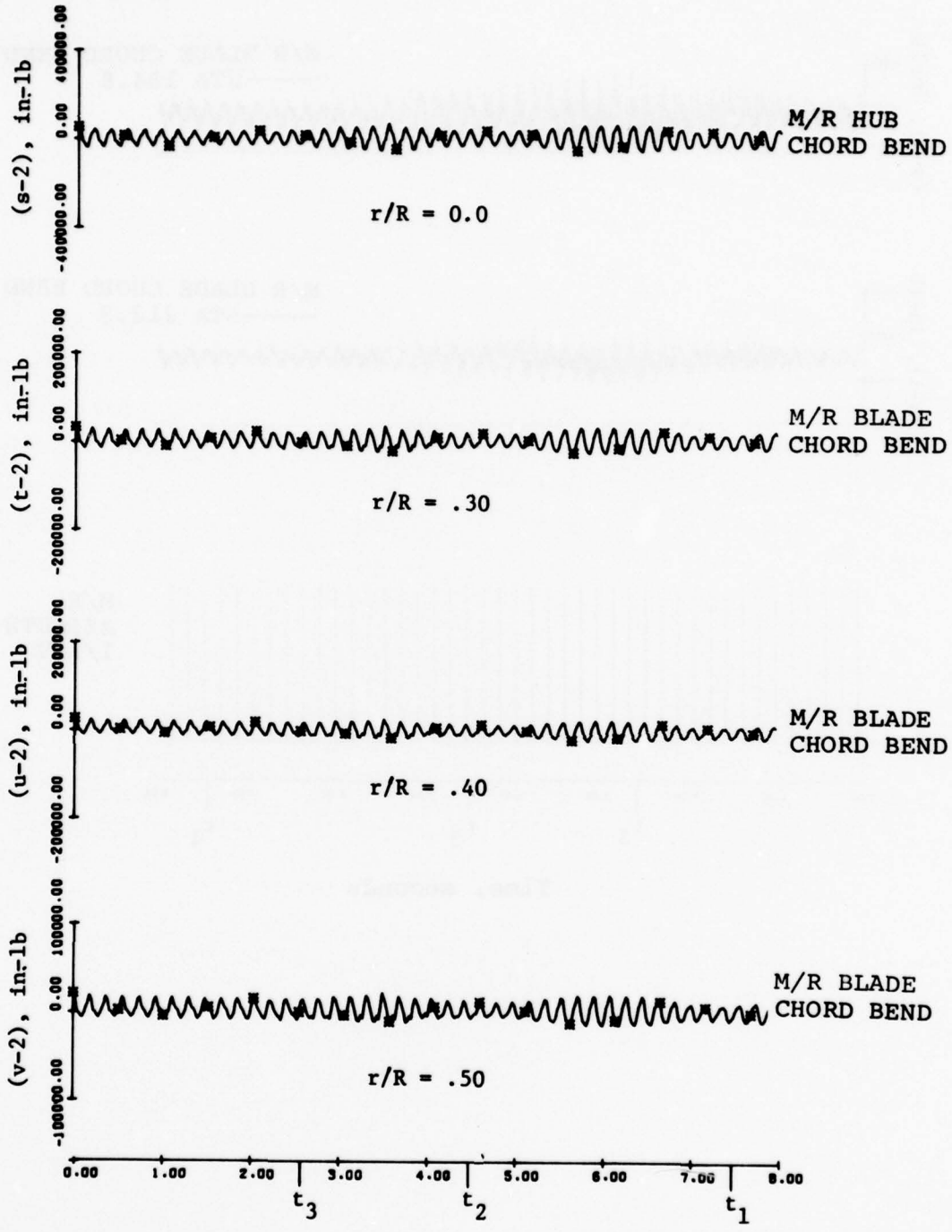


Figure C.12 (Continued)

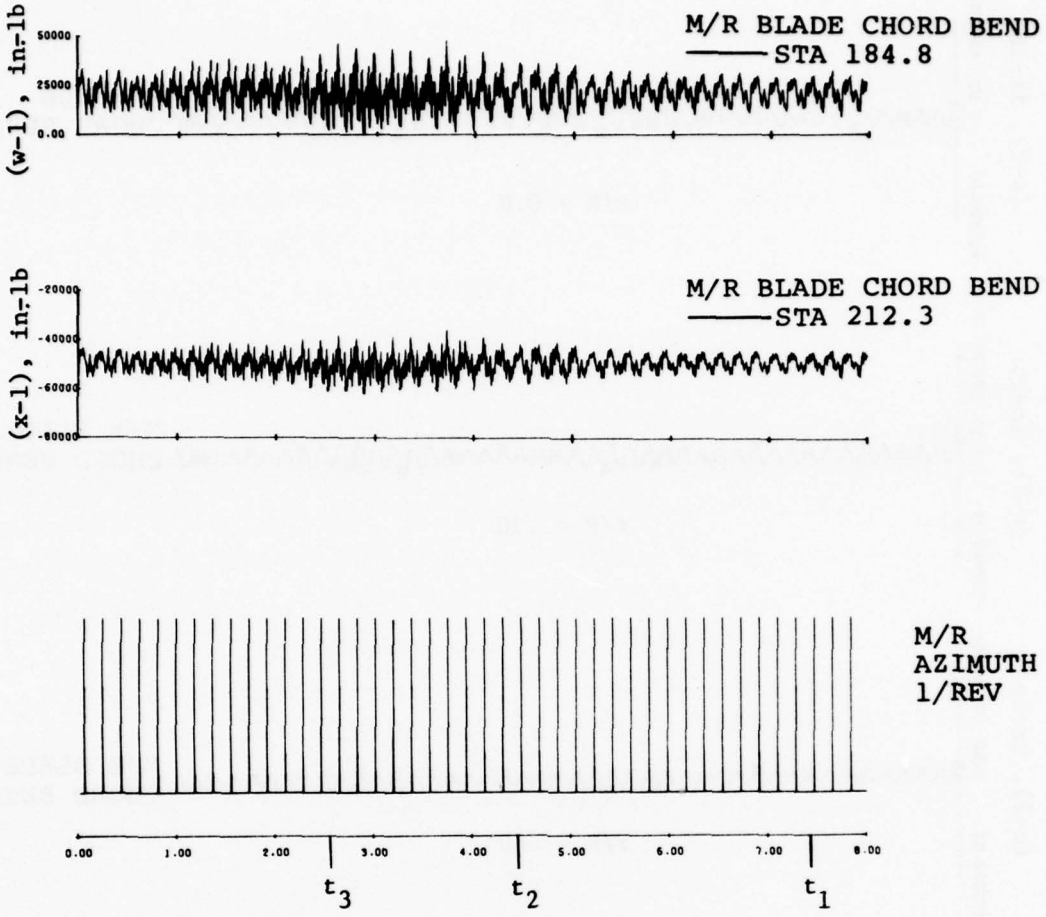


Figure C.12 (Continued)

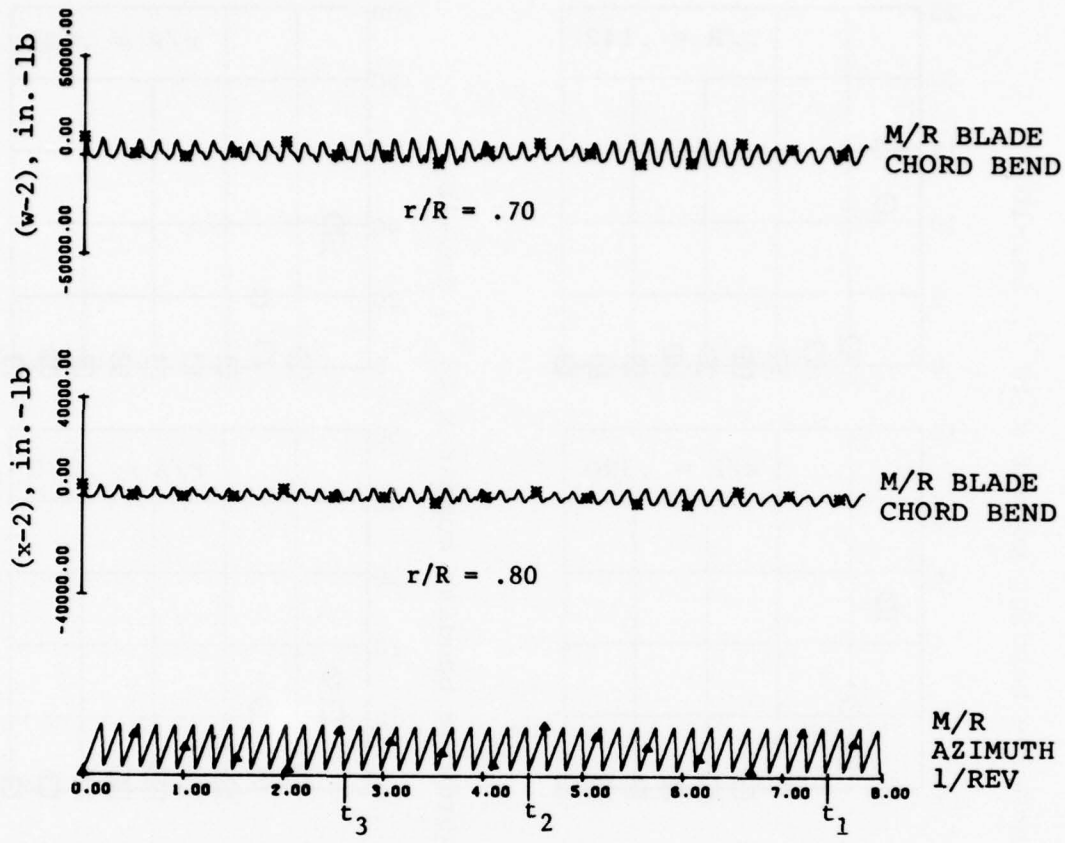
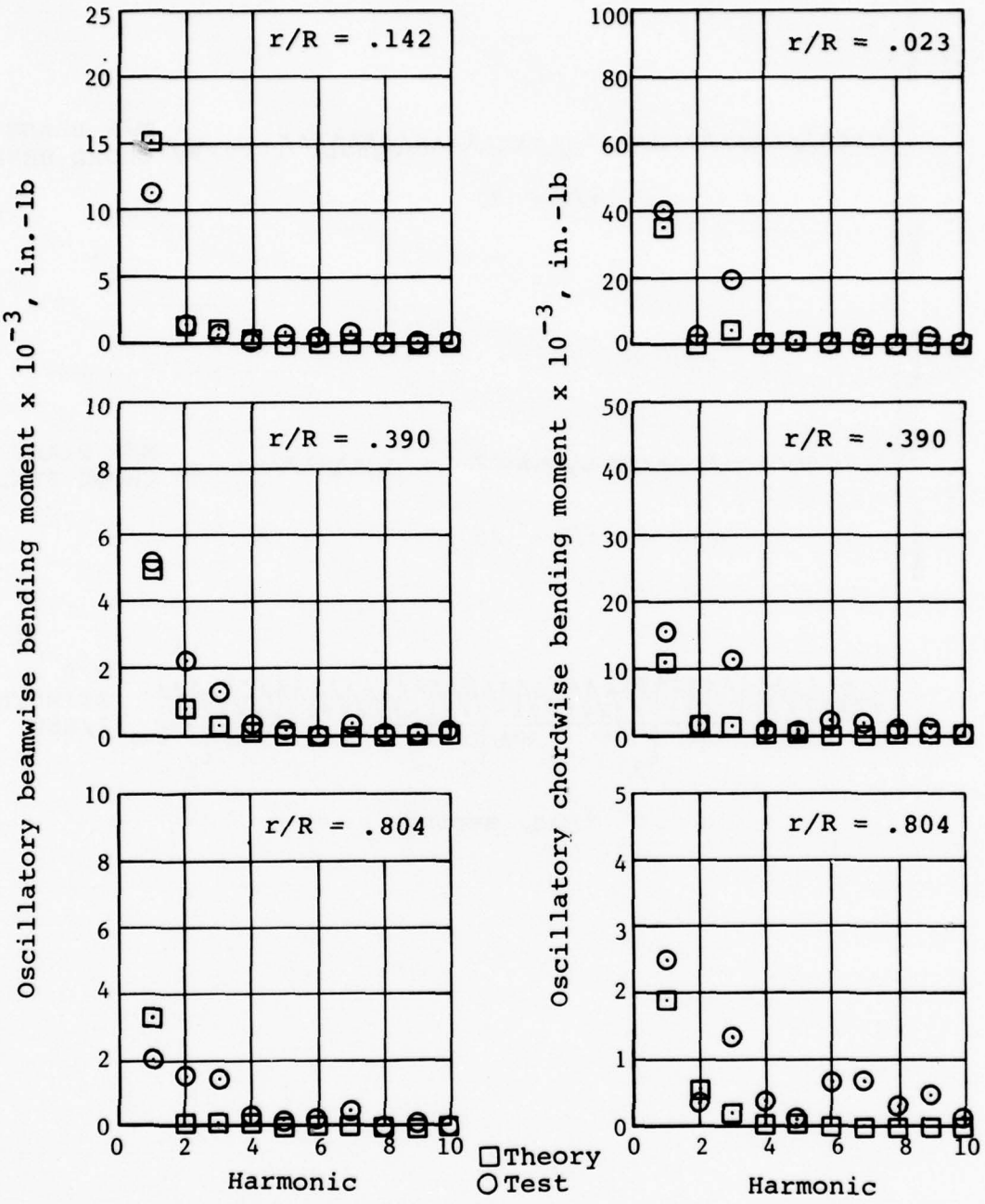
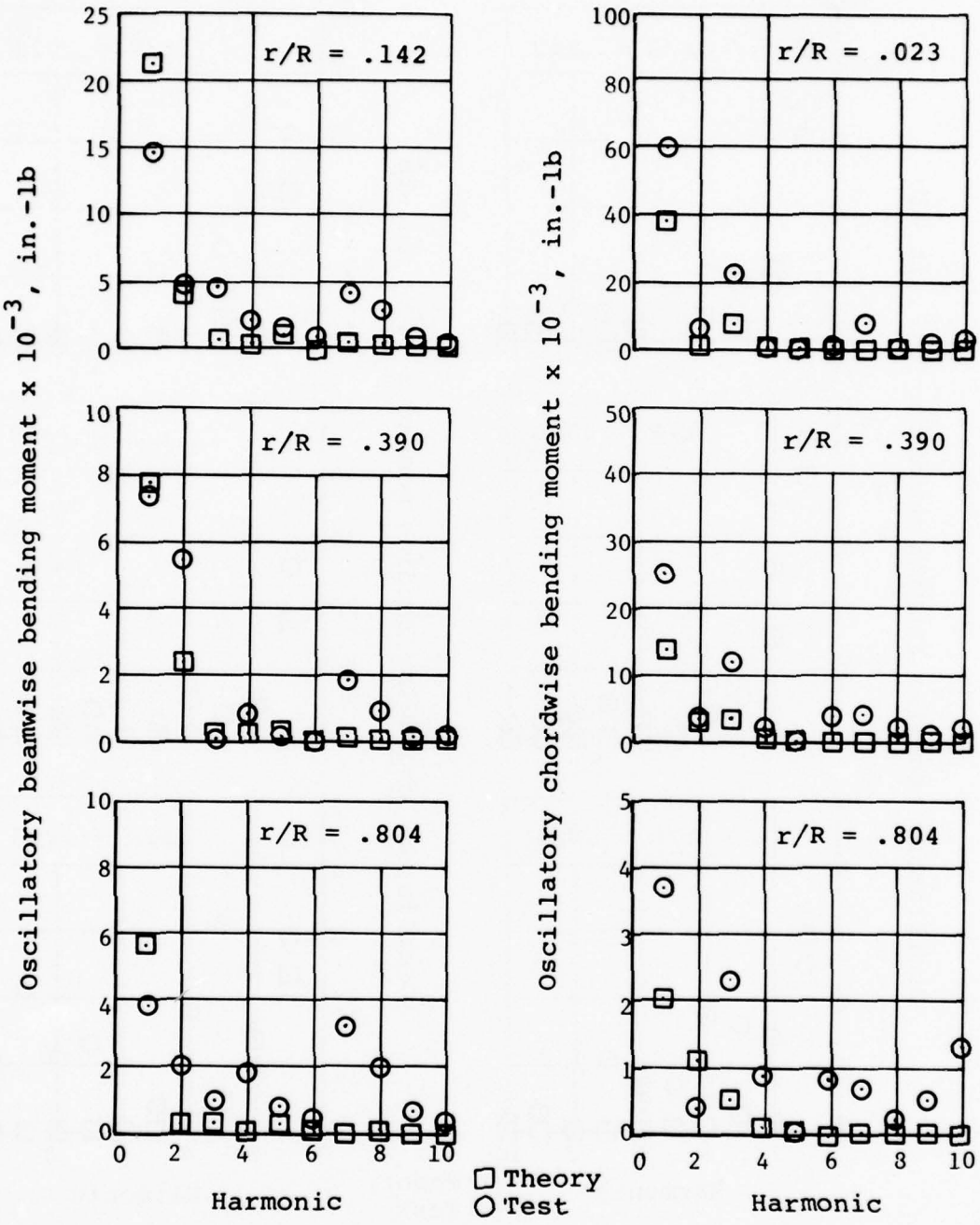


Figure C.12 (Concluded)



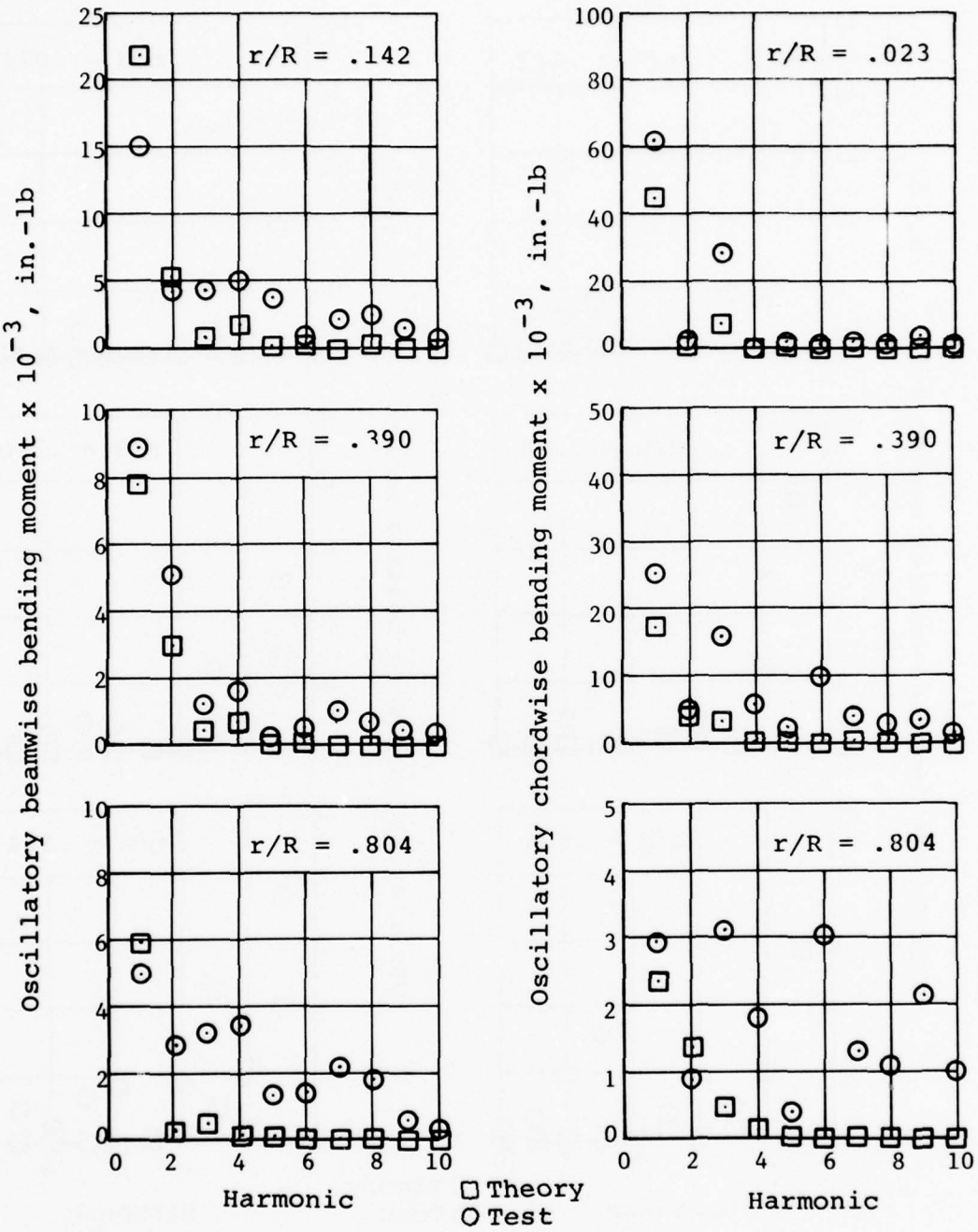
(a) Minimum oscillatory g-level time point, t_1 (7.45 sec)

Figure C.13 Comparison of measured and computed rotor bending moment harmonic components at various blade radial stations during a symmetric pull-up.



(b) Maximum oscillatory g-level time point, t_2 (4.45 sec)

Figure C.13 (Continued)



(c) Maximum mean g-level time point, t_3 (2.6 sec)

Figure C.13 (Concluded)

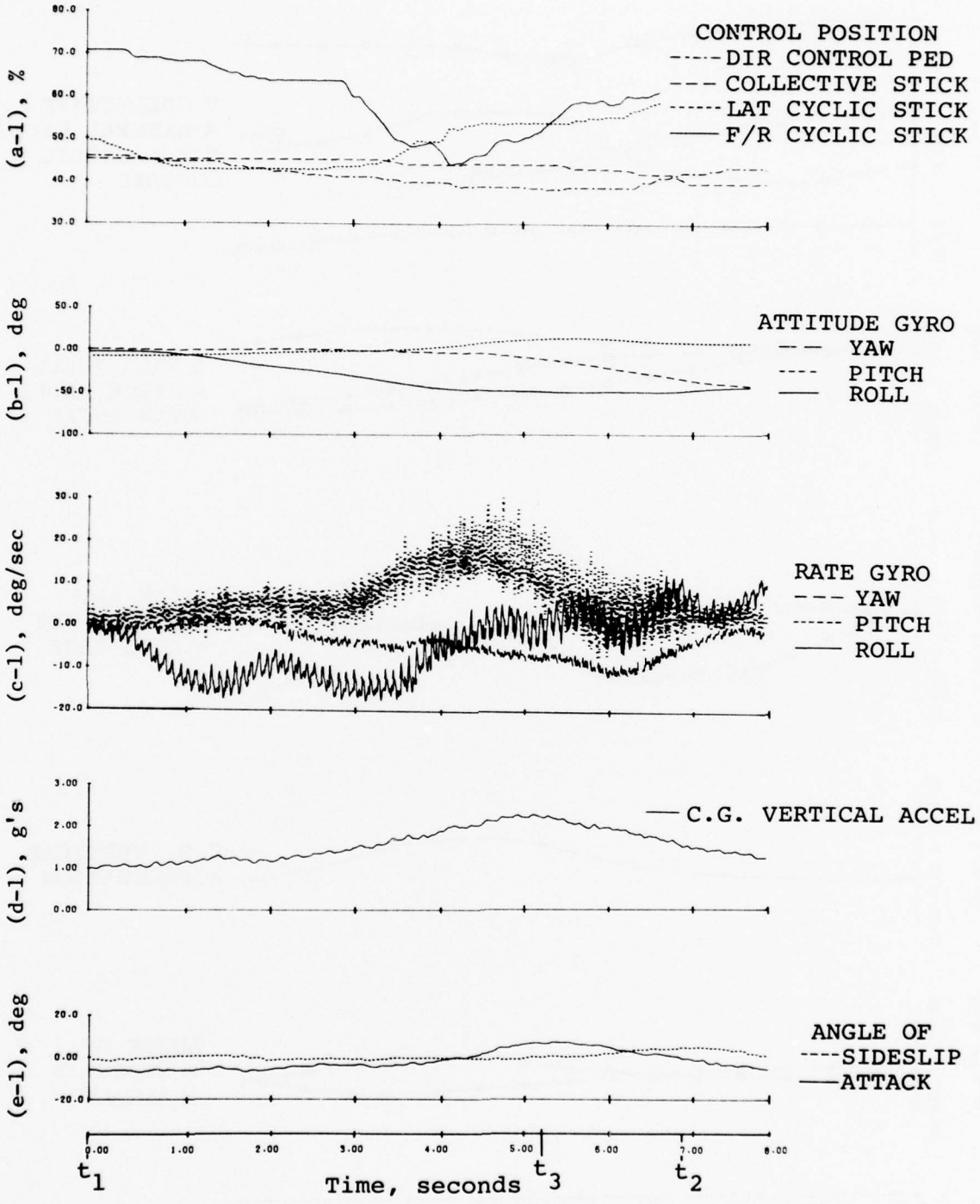


Figure C.14 Comparison of measured and computed time histories of 2.2g left turn, flight 32, counter 558.

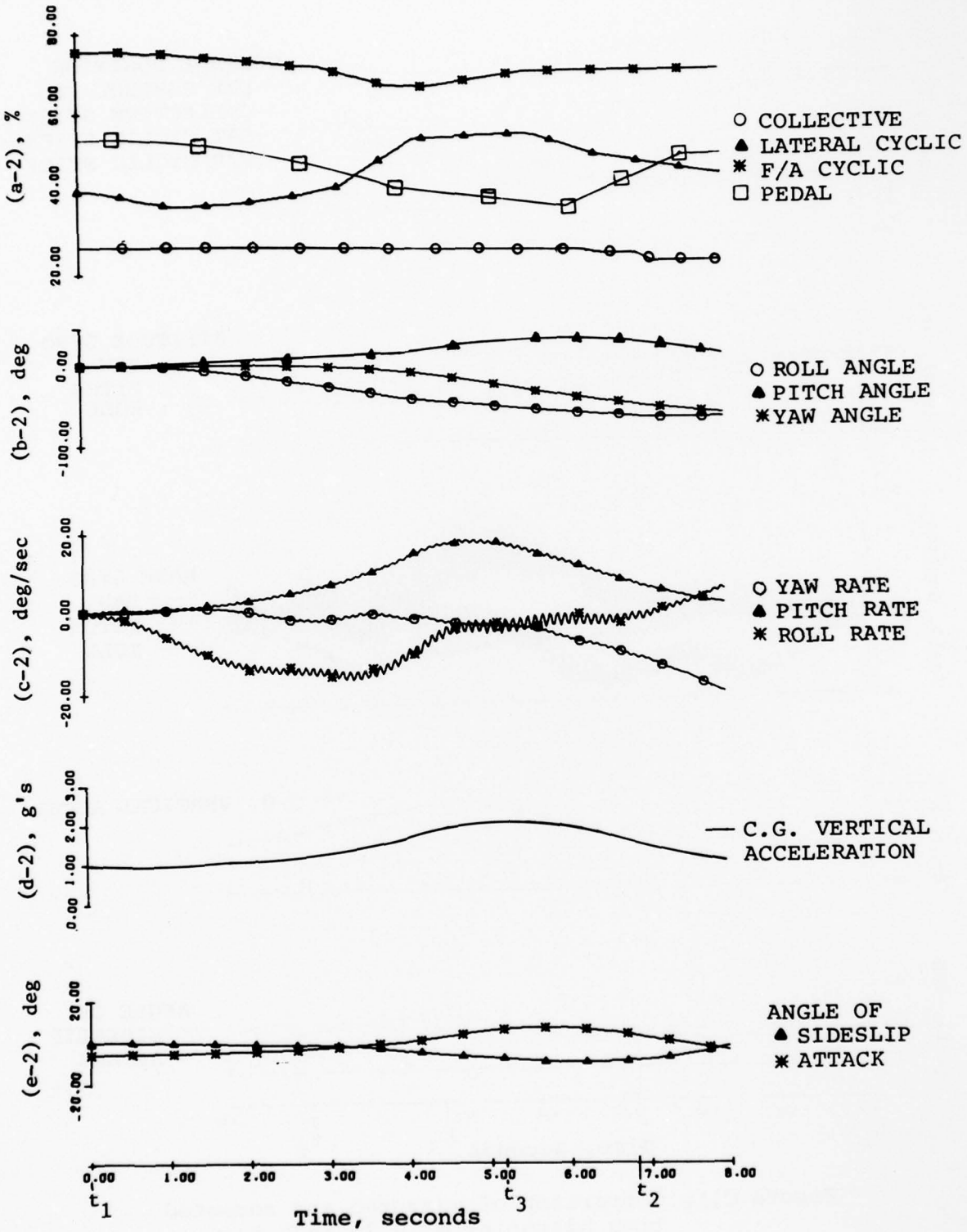


Figure C.14 (Continued)

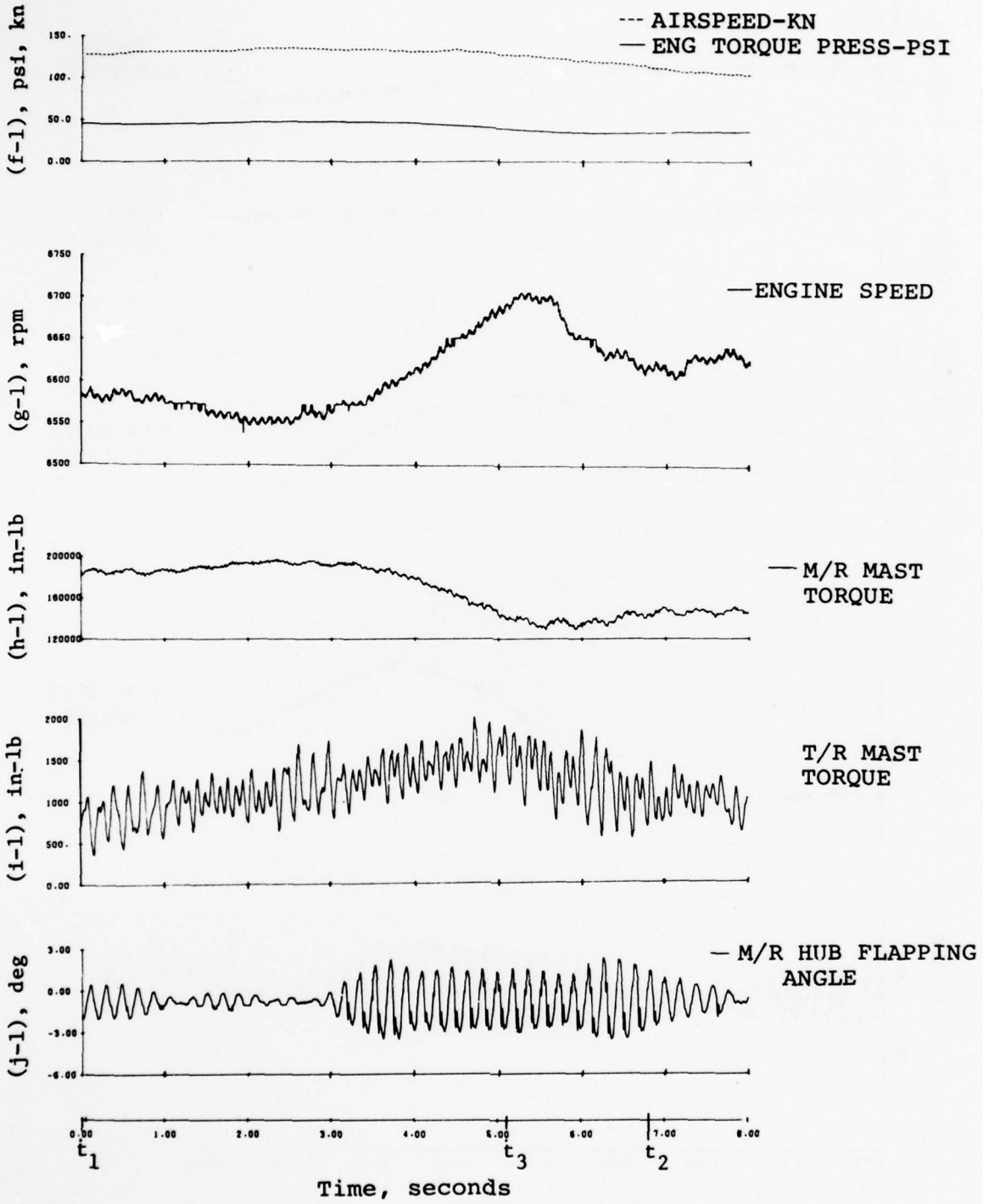


Figure C.14 (Continued)

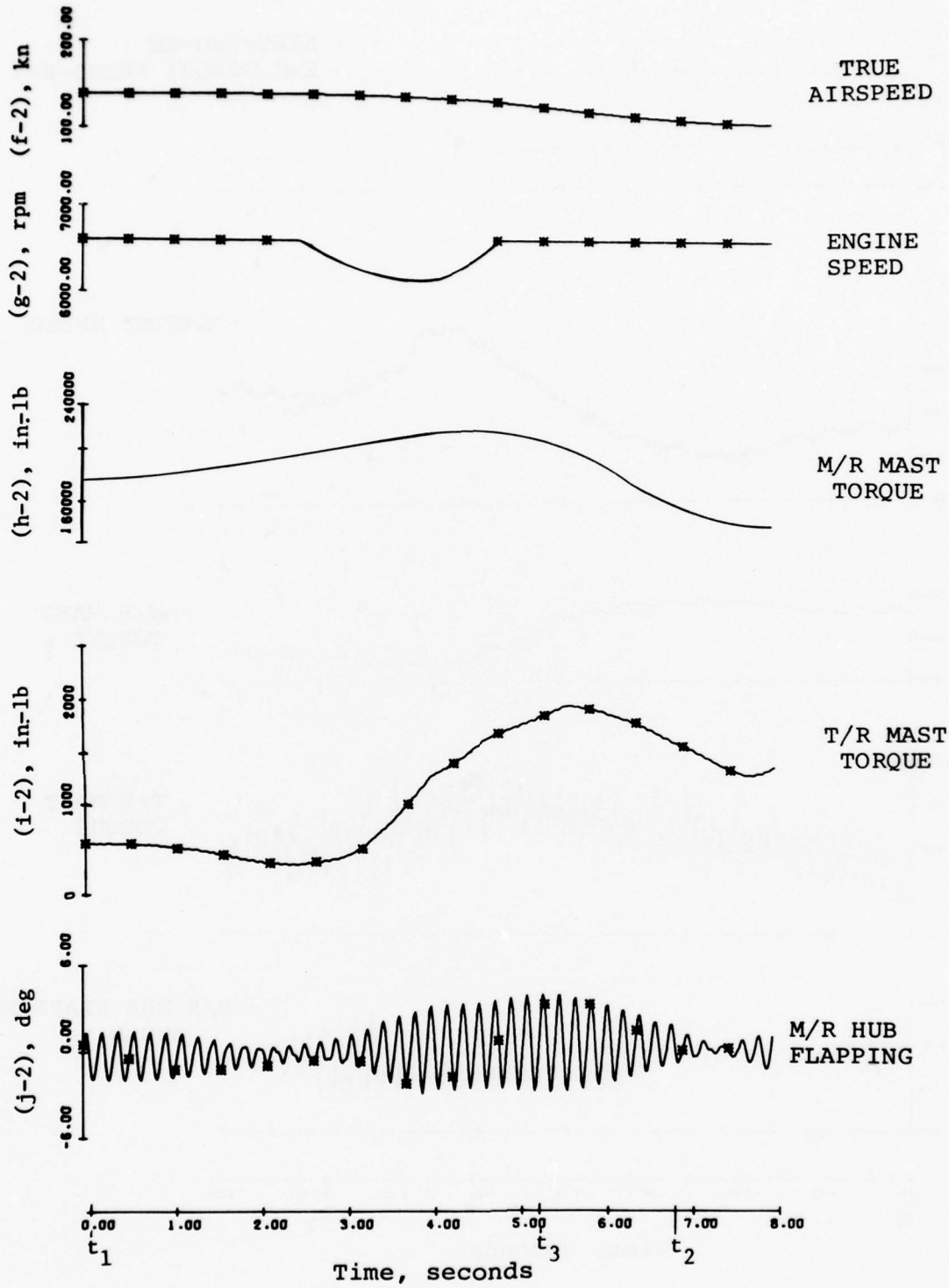


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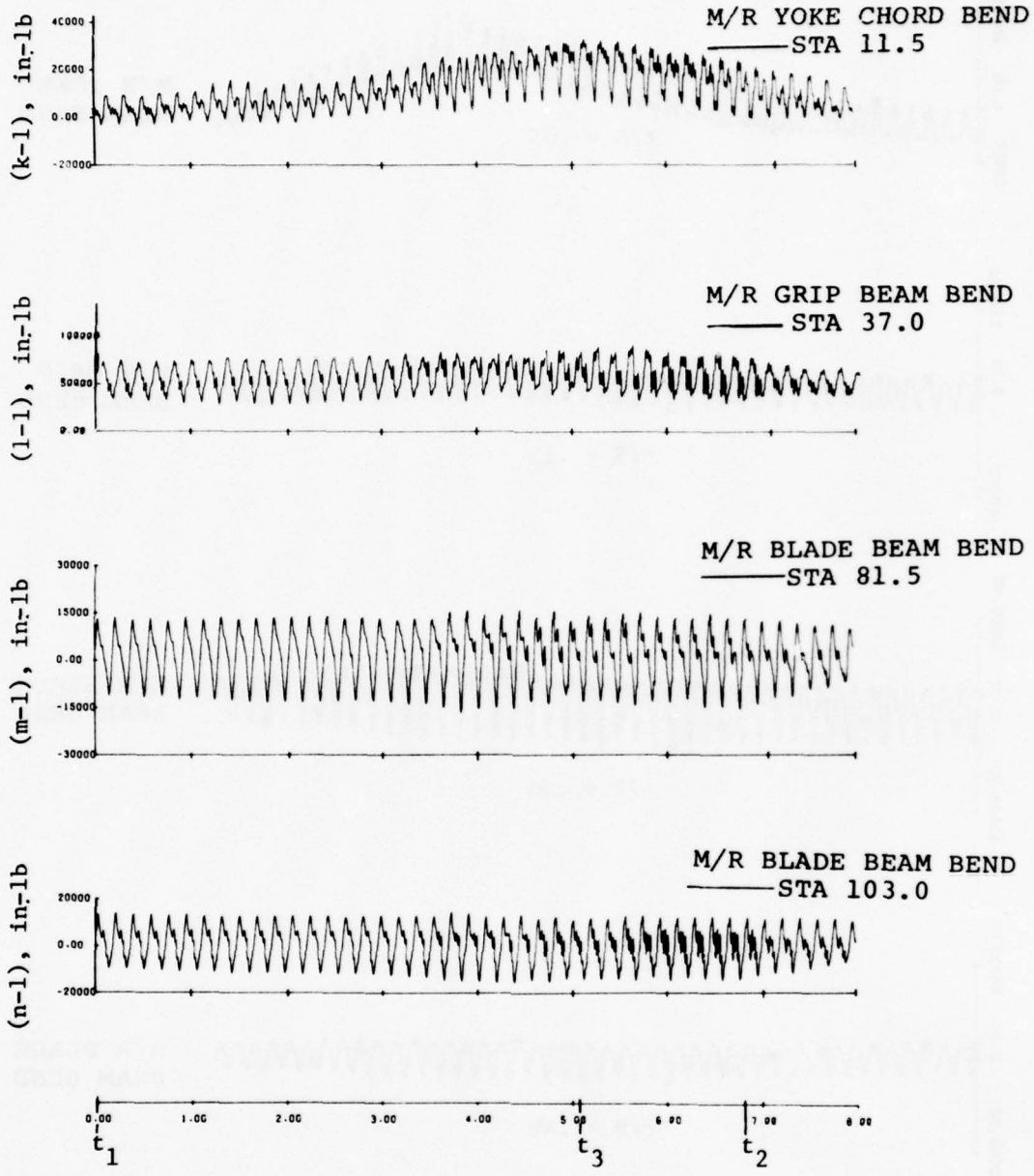


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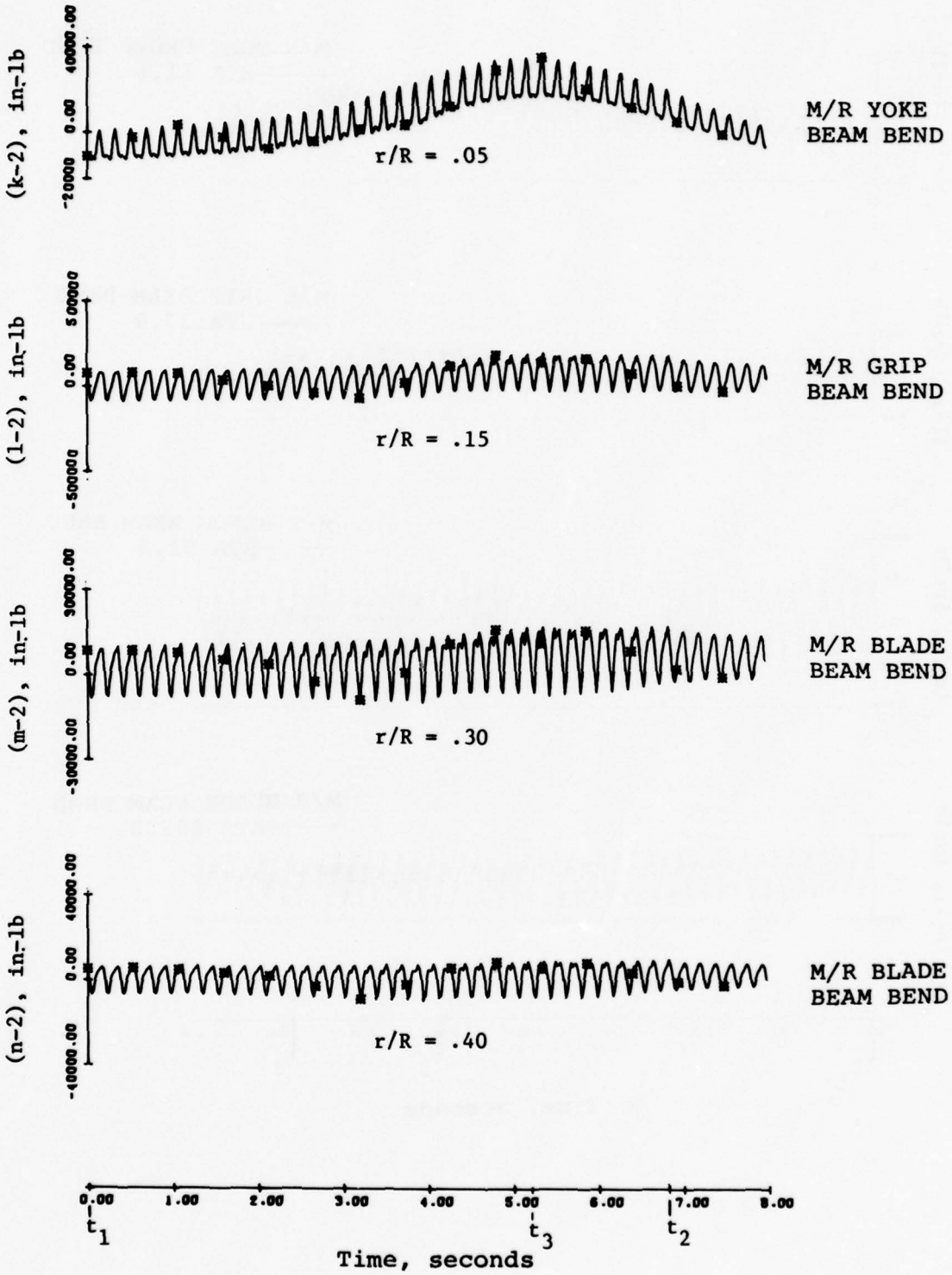


Figure C.14 (Continued)

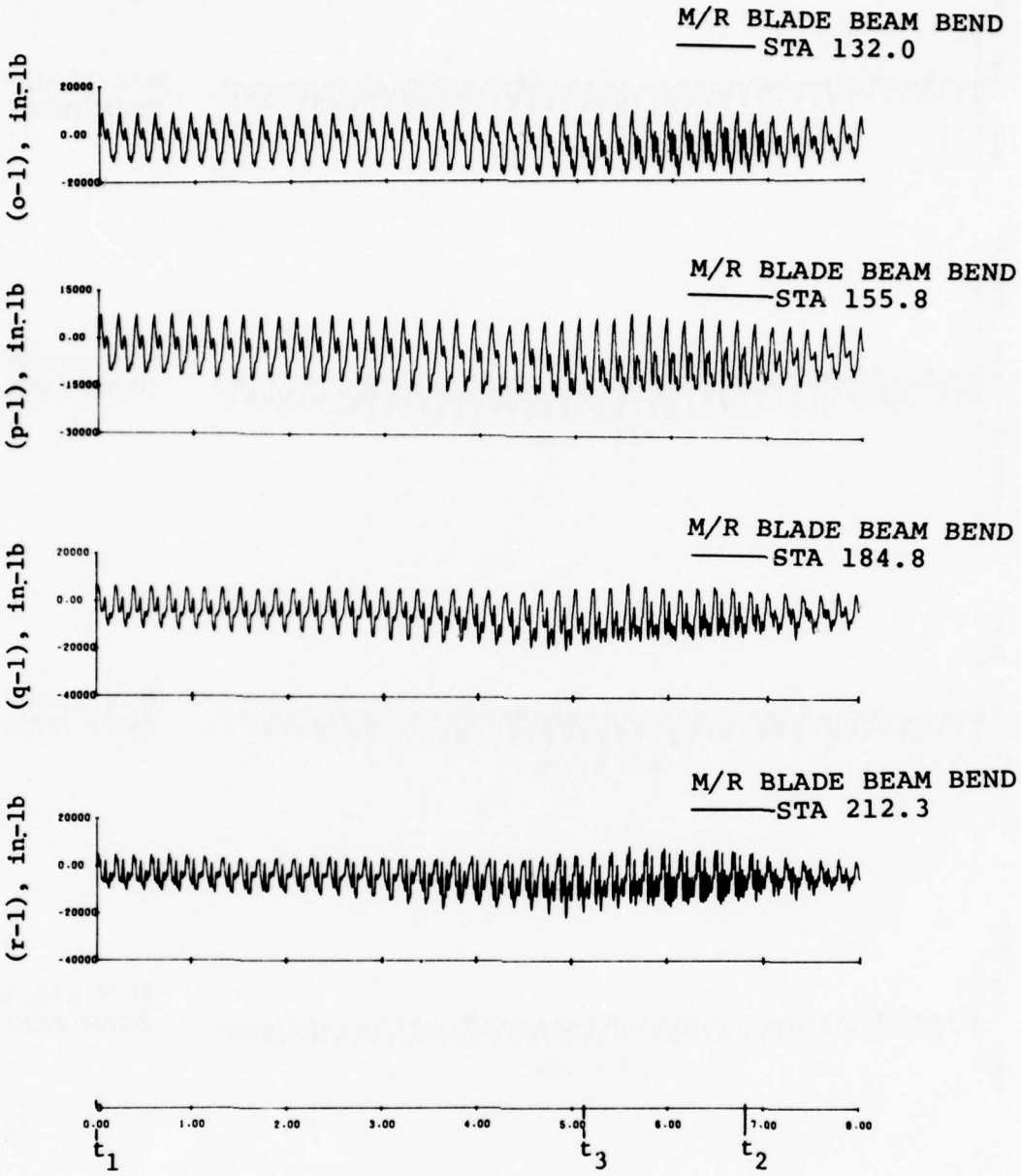


Figure C.14 (Continued)

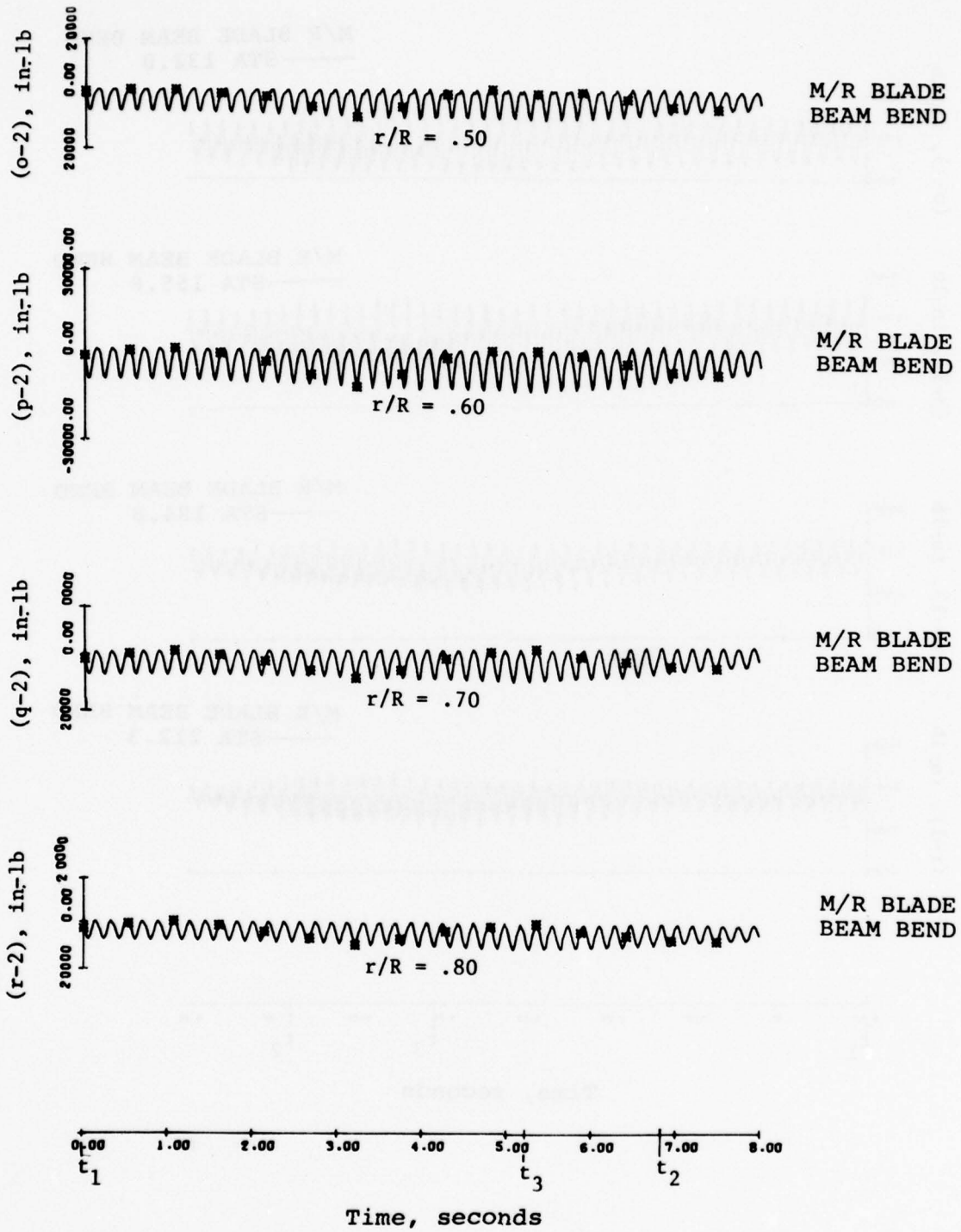


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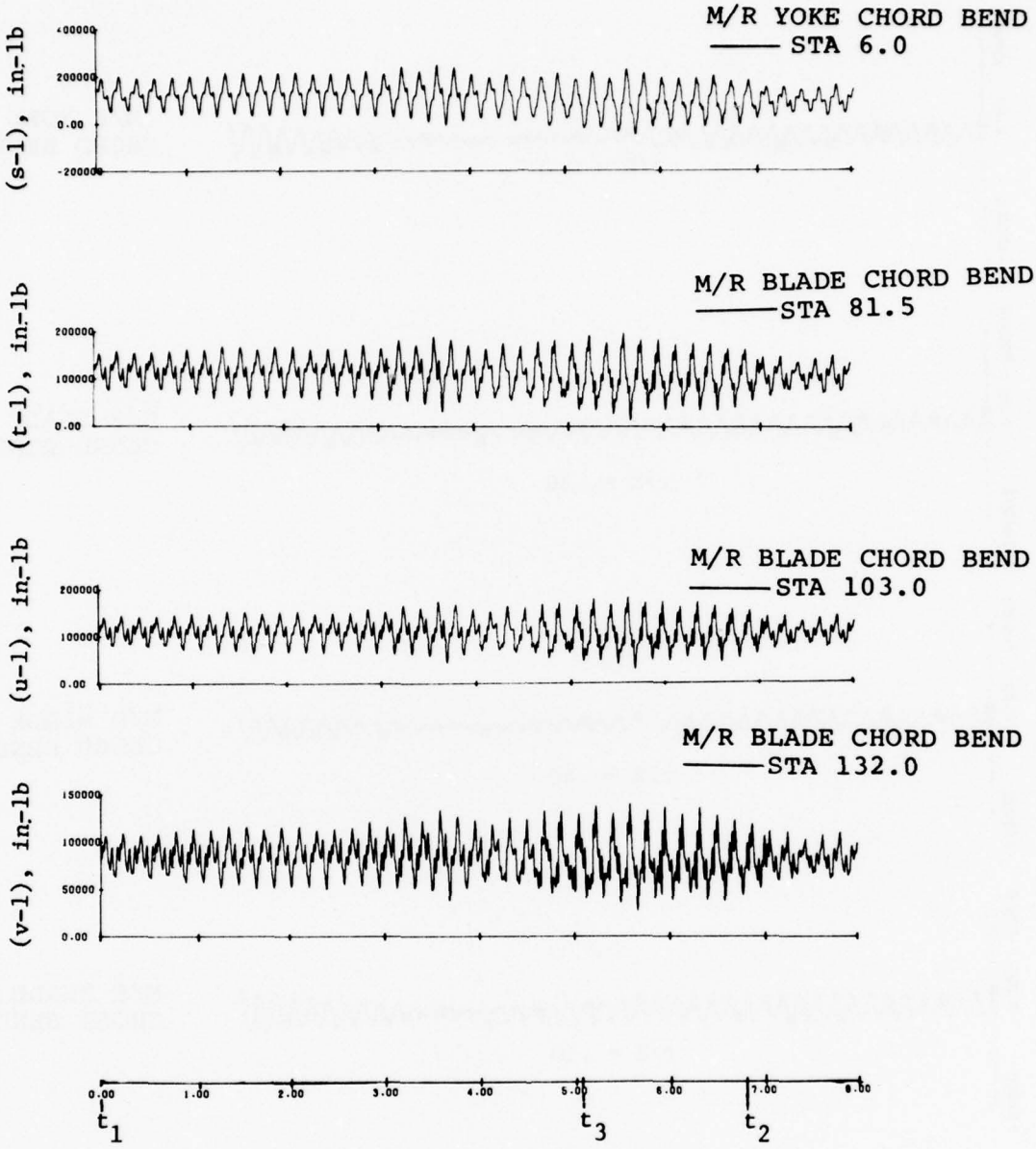


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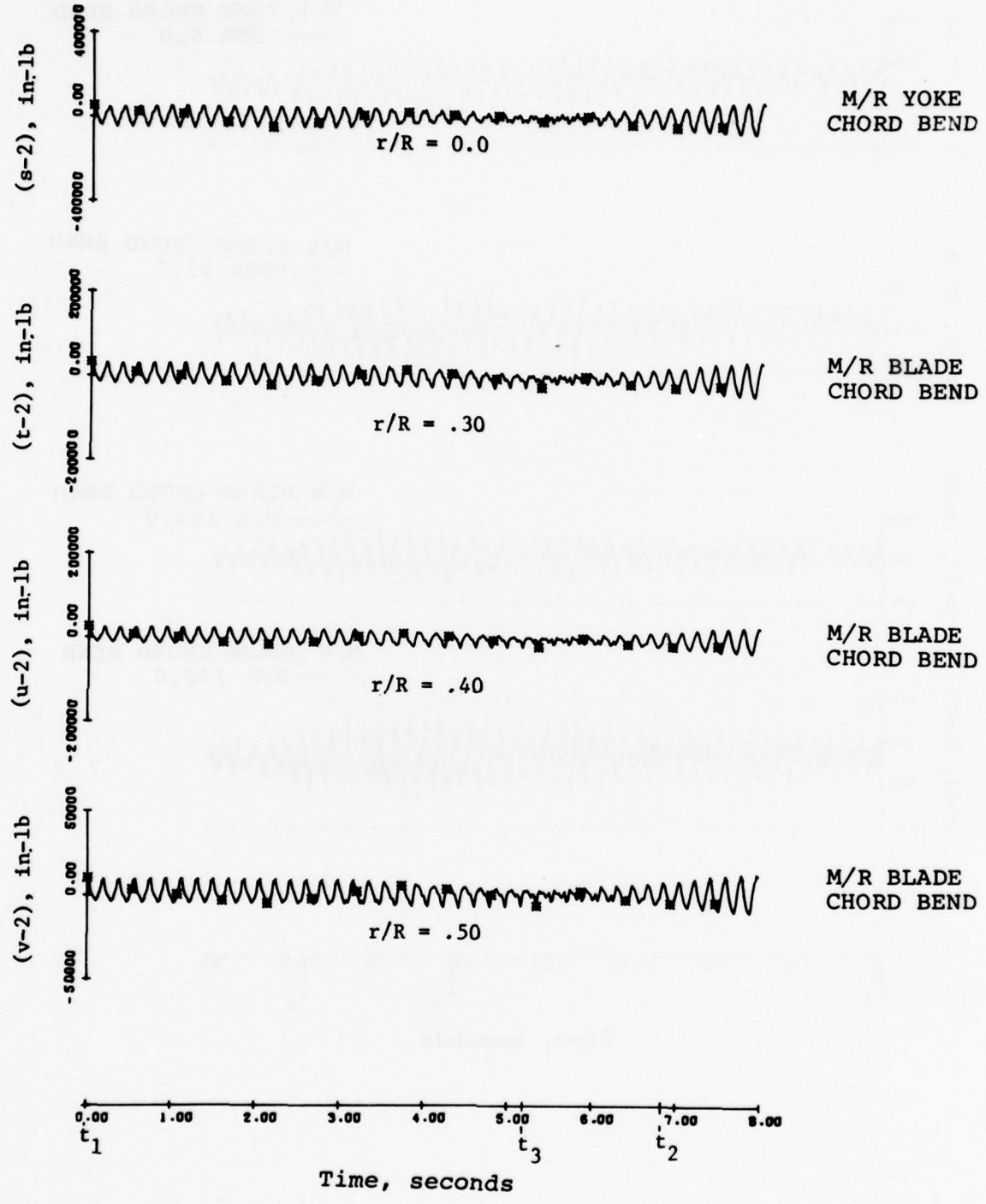


Figure C.14 (Continued)

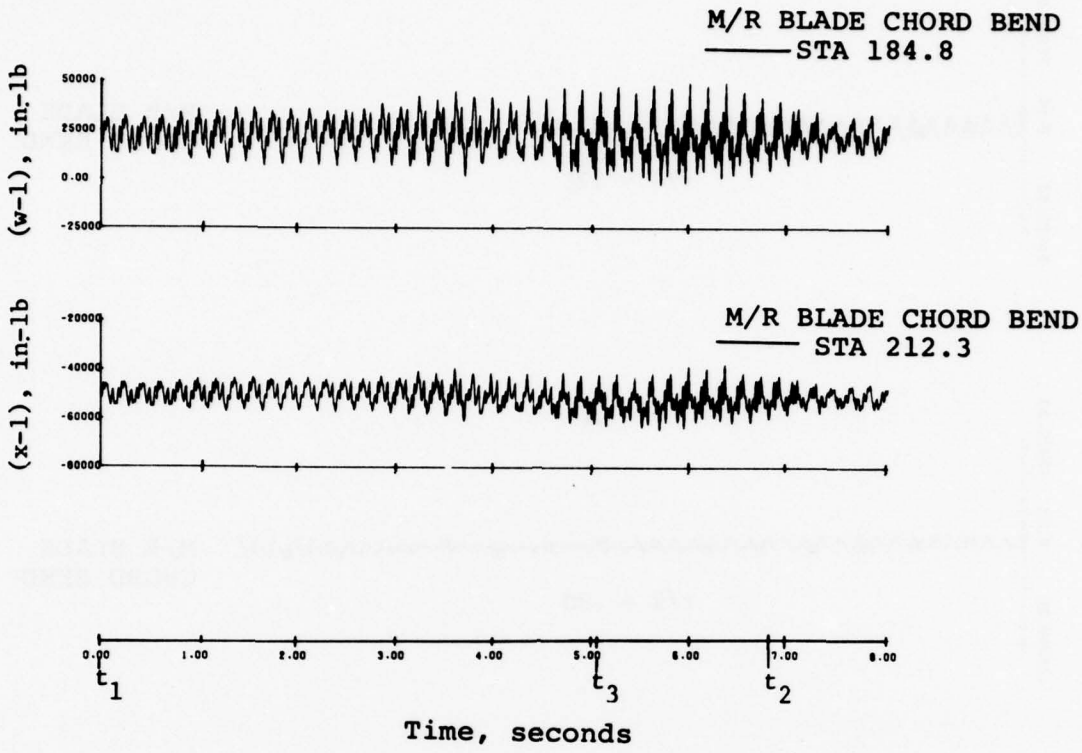


Figure C.14 (Continued)

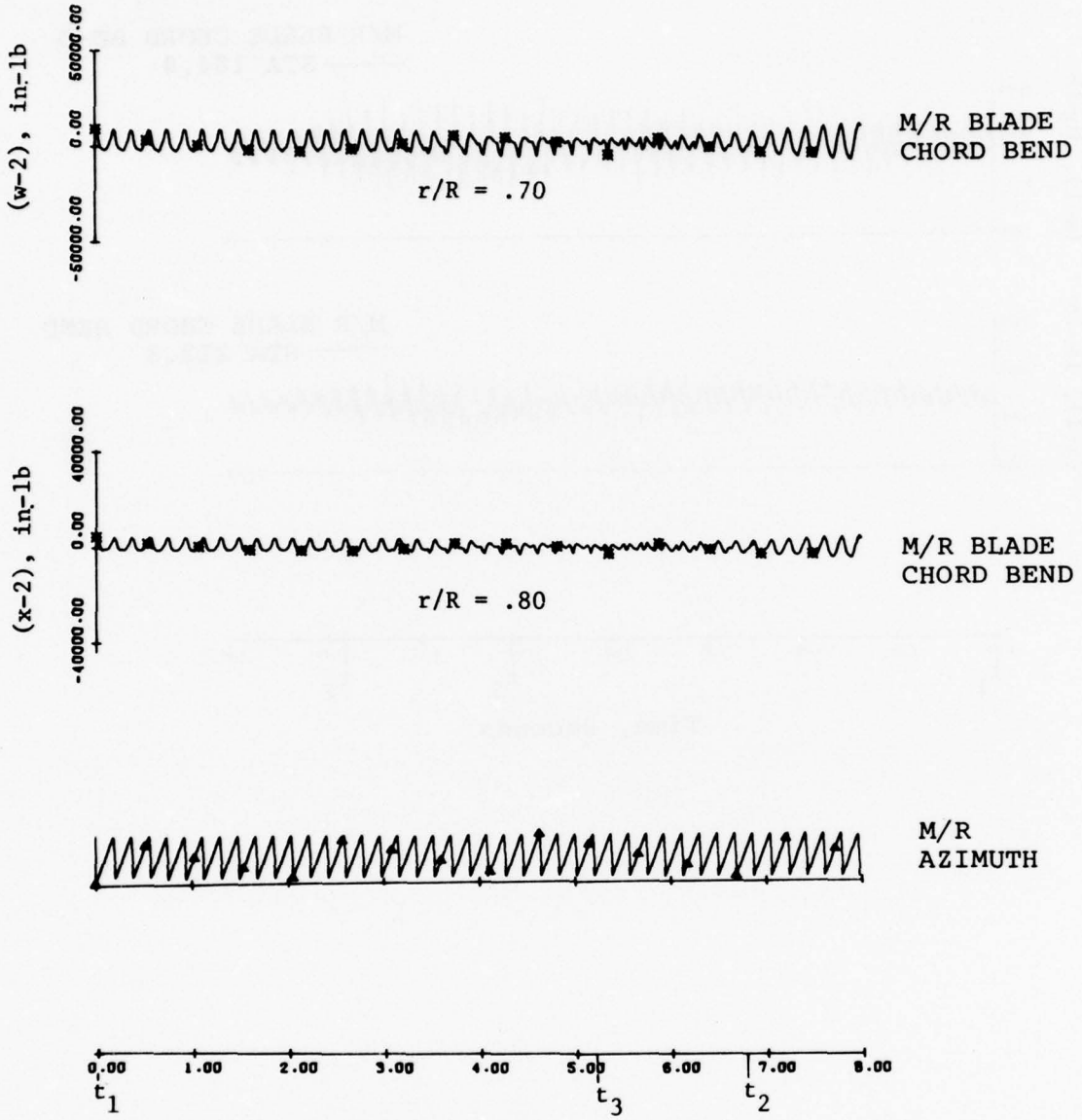
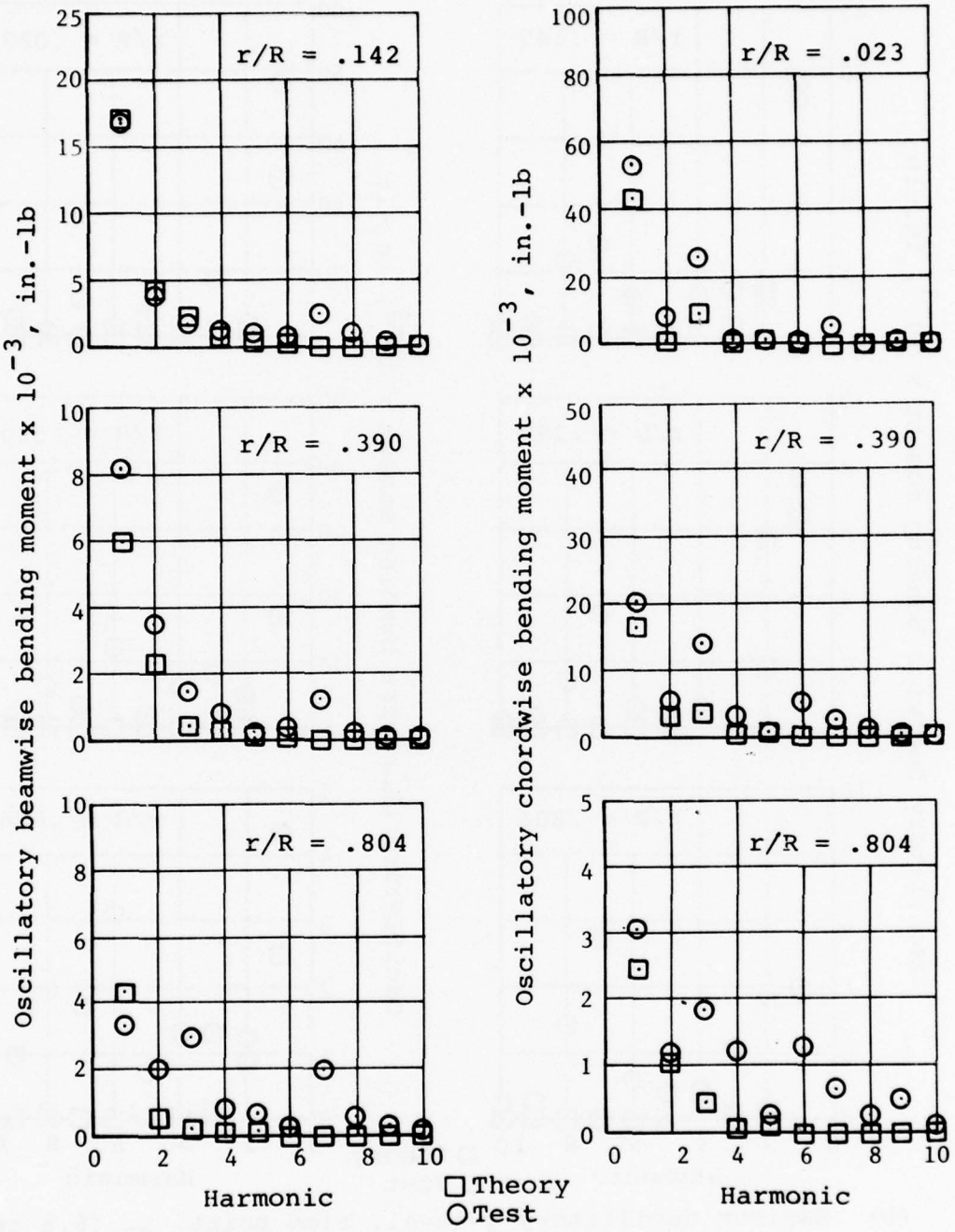
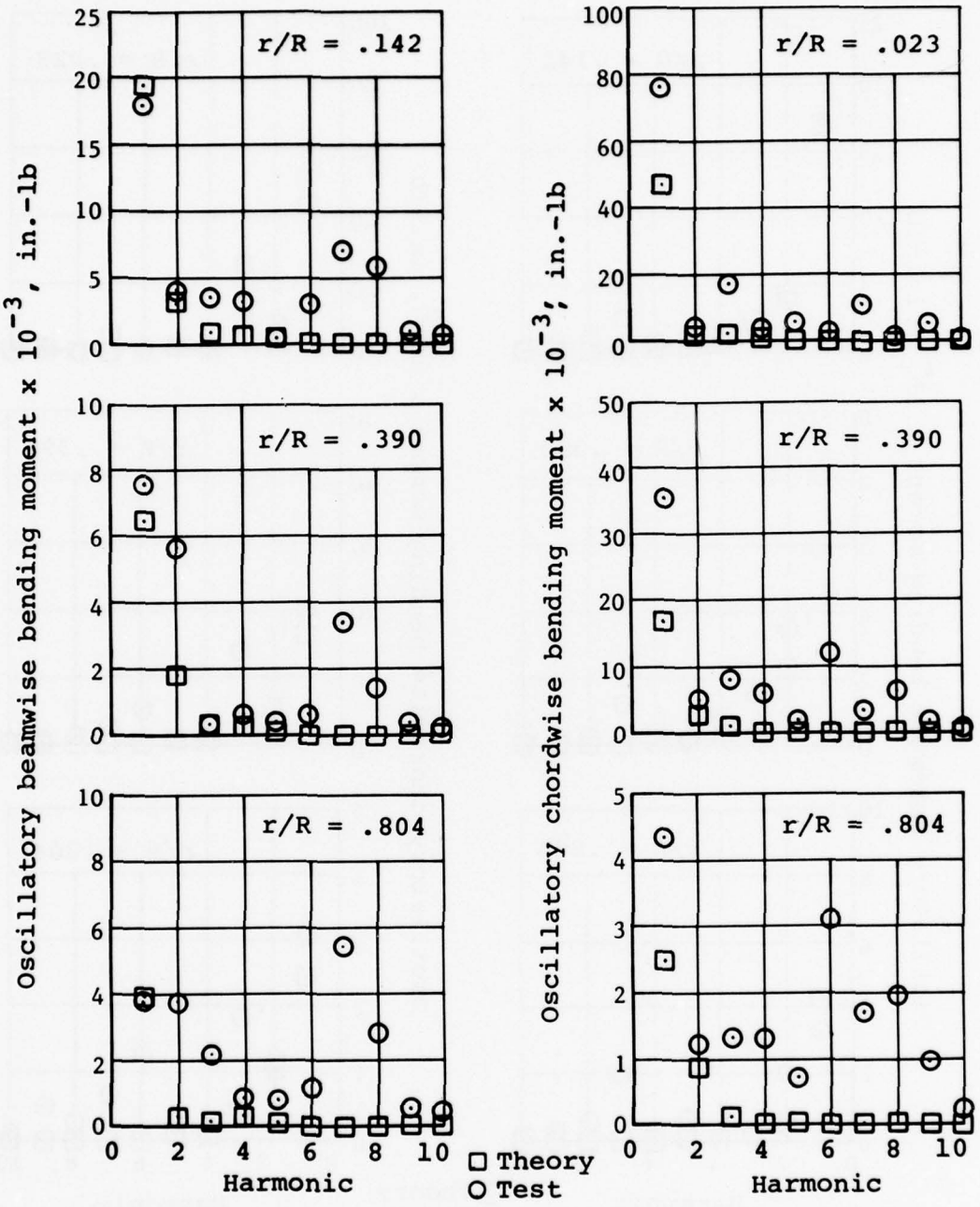


Figure C.14 (Concluded)



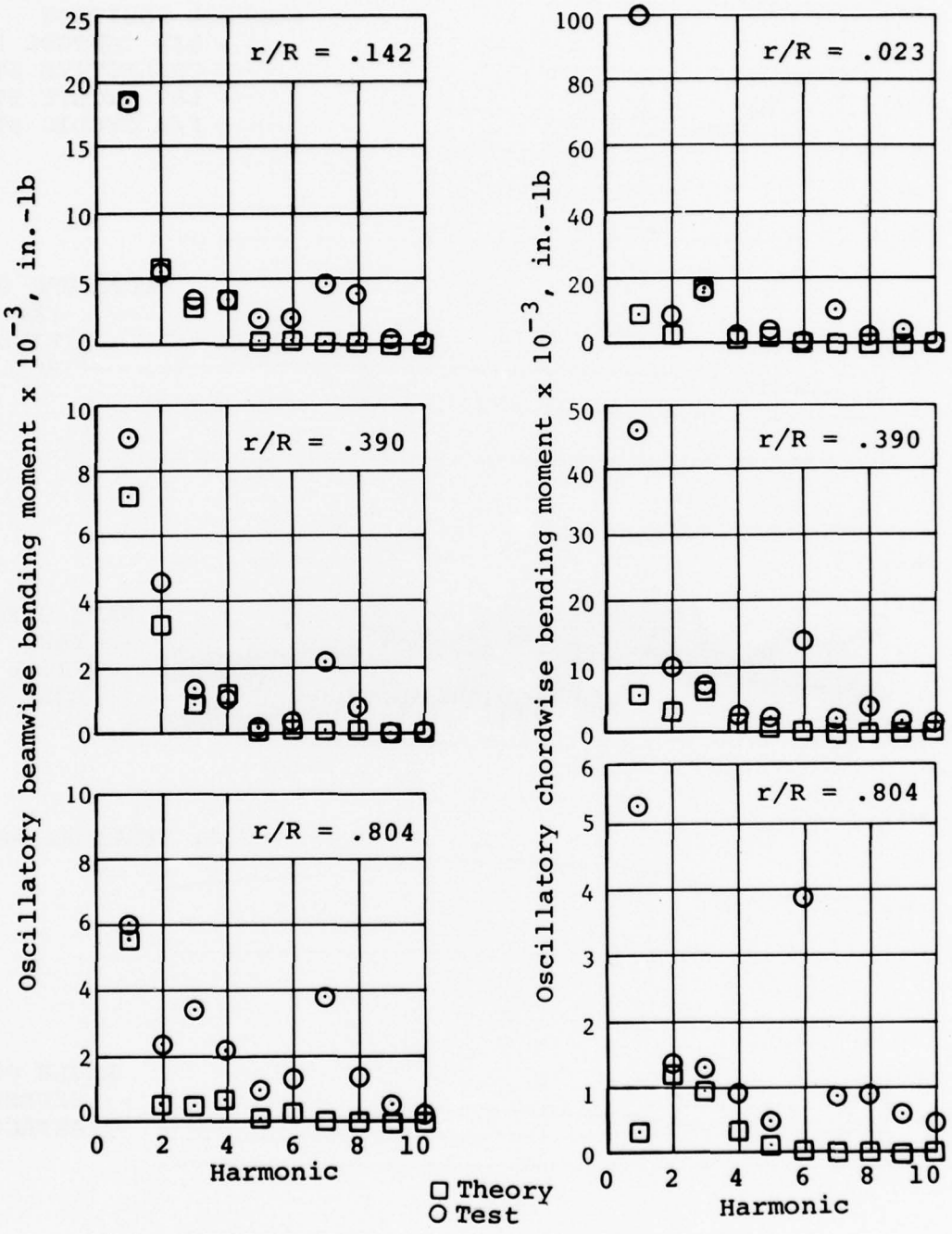
(a) Minimum oscillatory g-level time point, t_1 (0.0 sec)

Figure C.15 Comparison of measured and computed rotor bending moment harmonic components at various blade radial stations during a left turn.



(b) Maximum oscillatory g-level, time point, t_2 (6.8 sec)

Figure C.15 (Continued)



(c) Maximum mean g-level time point, t_3 (5.2 sec)

Figure C.15 (Concluded)

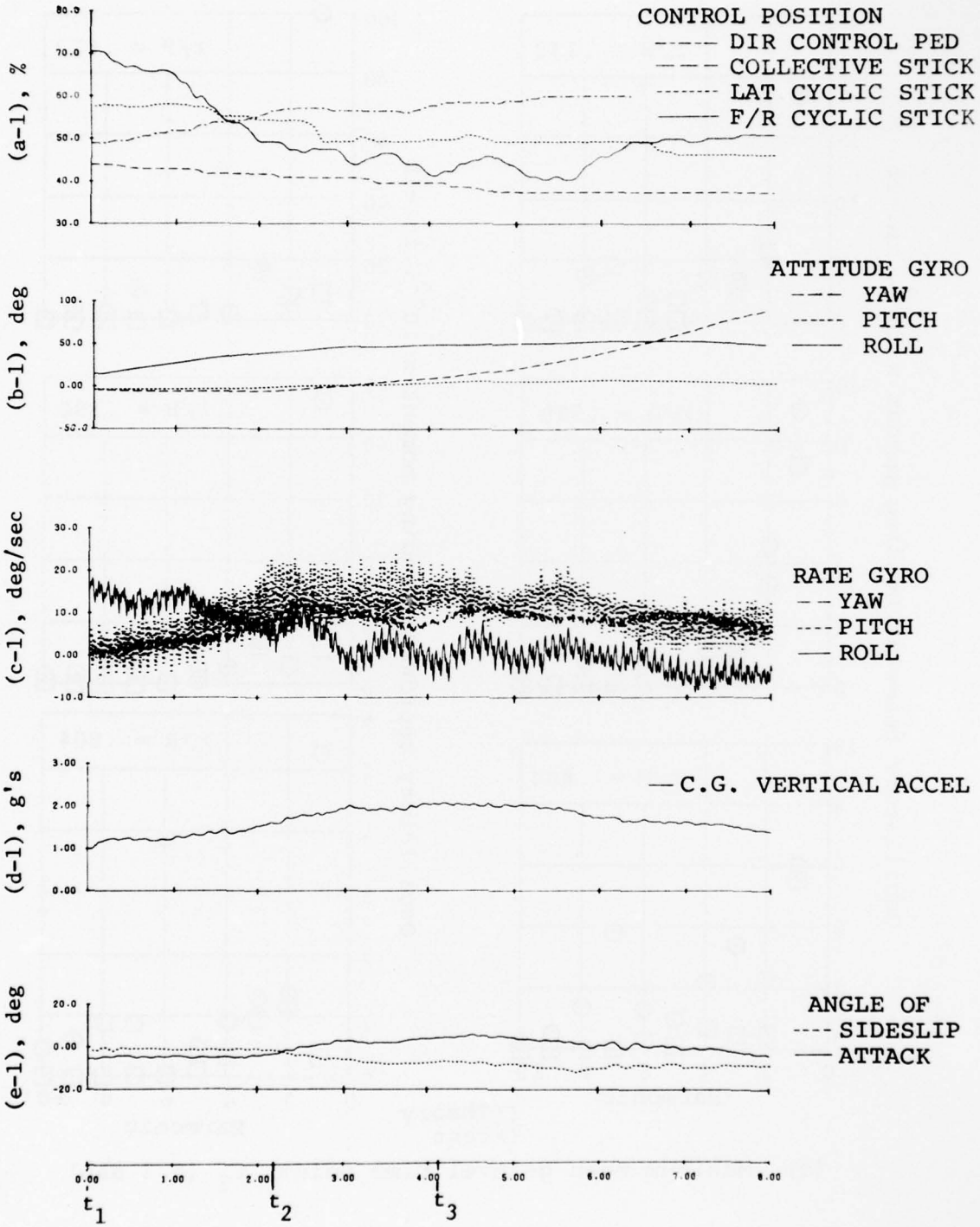


Figure C.16 Comparison of measured and computed time histories of 2.0g right turn, flight 32, counter 561.

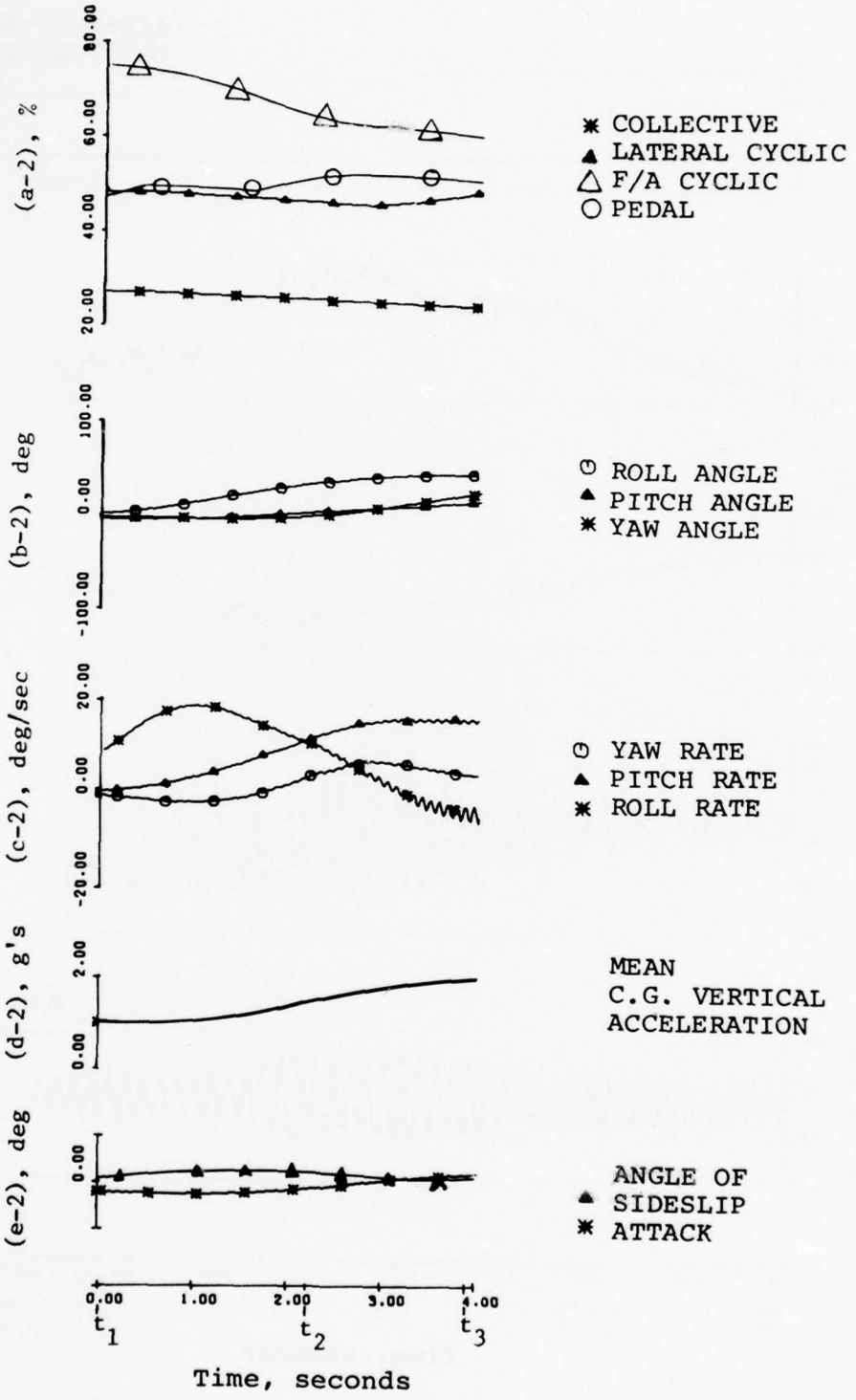


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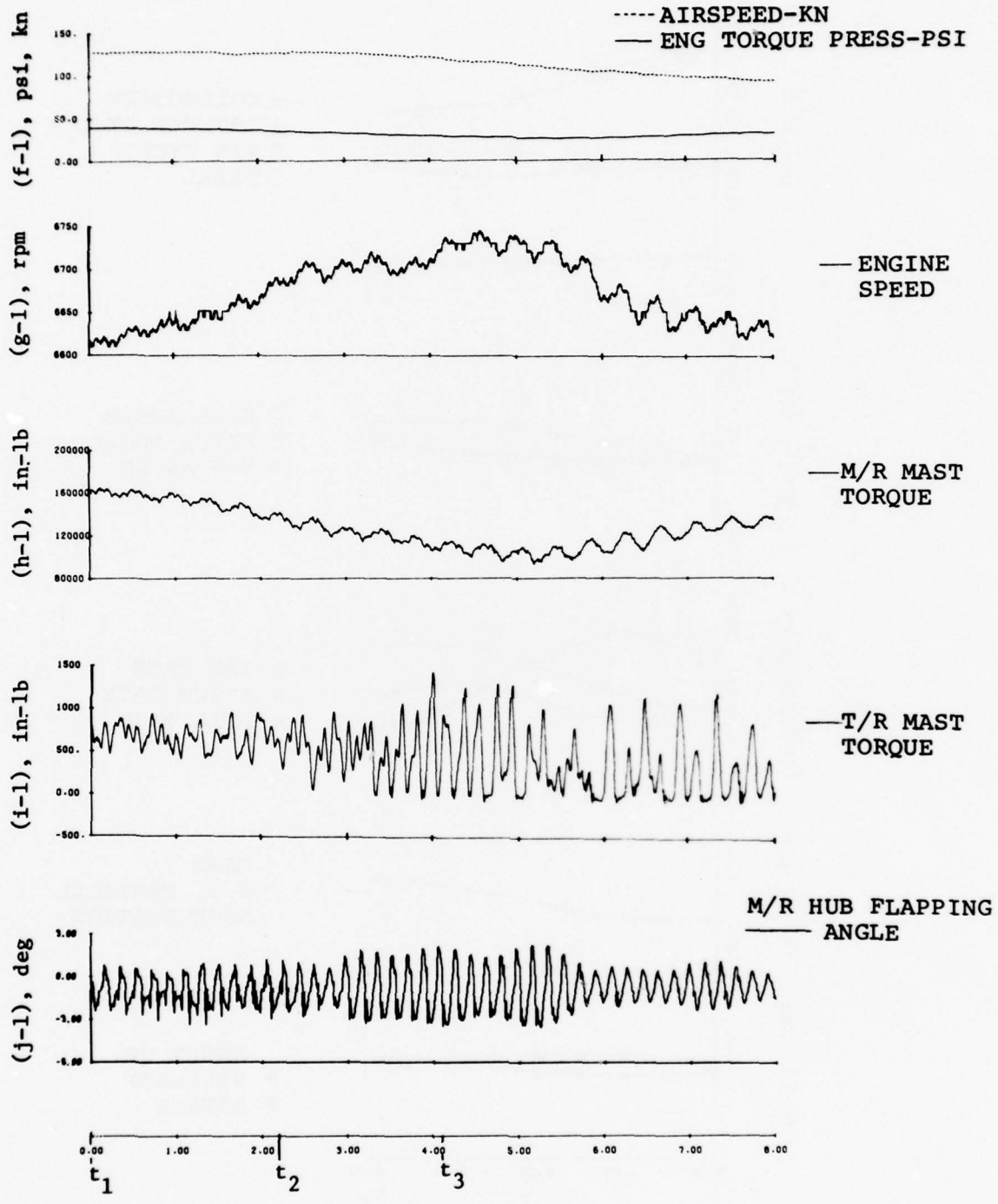


Figure C.16 (Continued)

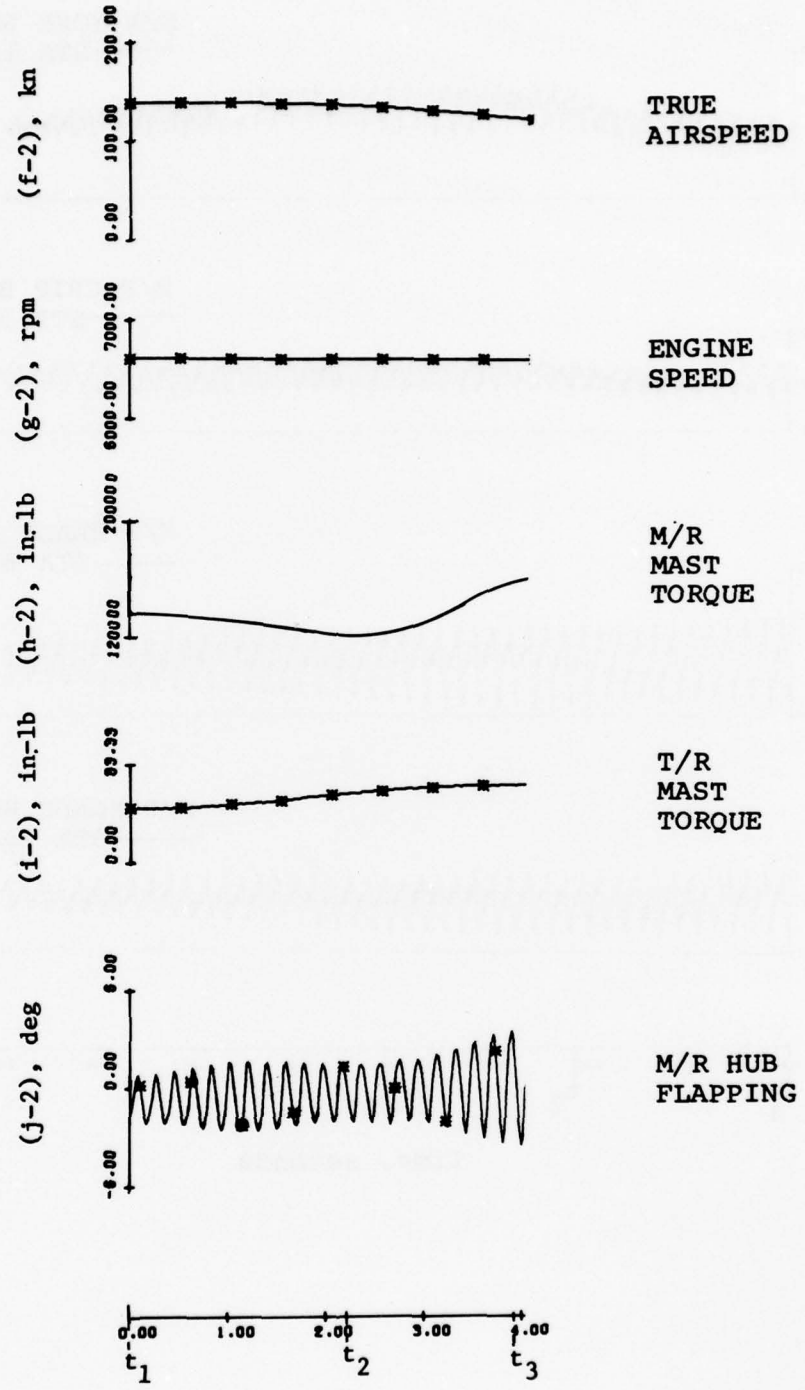


Figure C.16 (Continued)

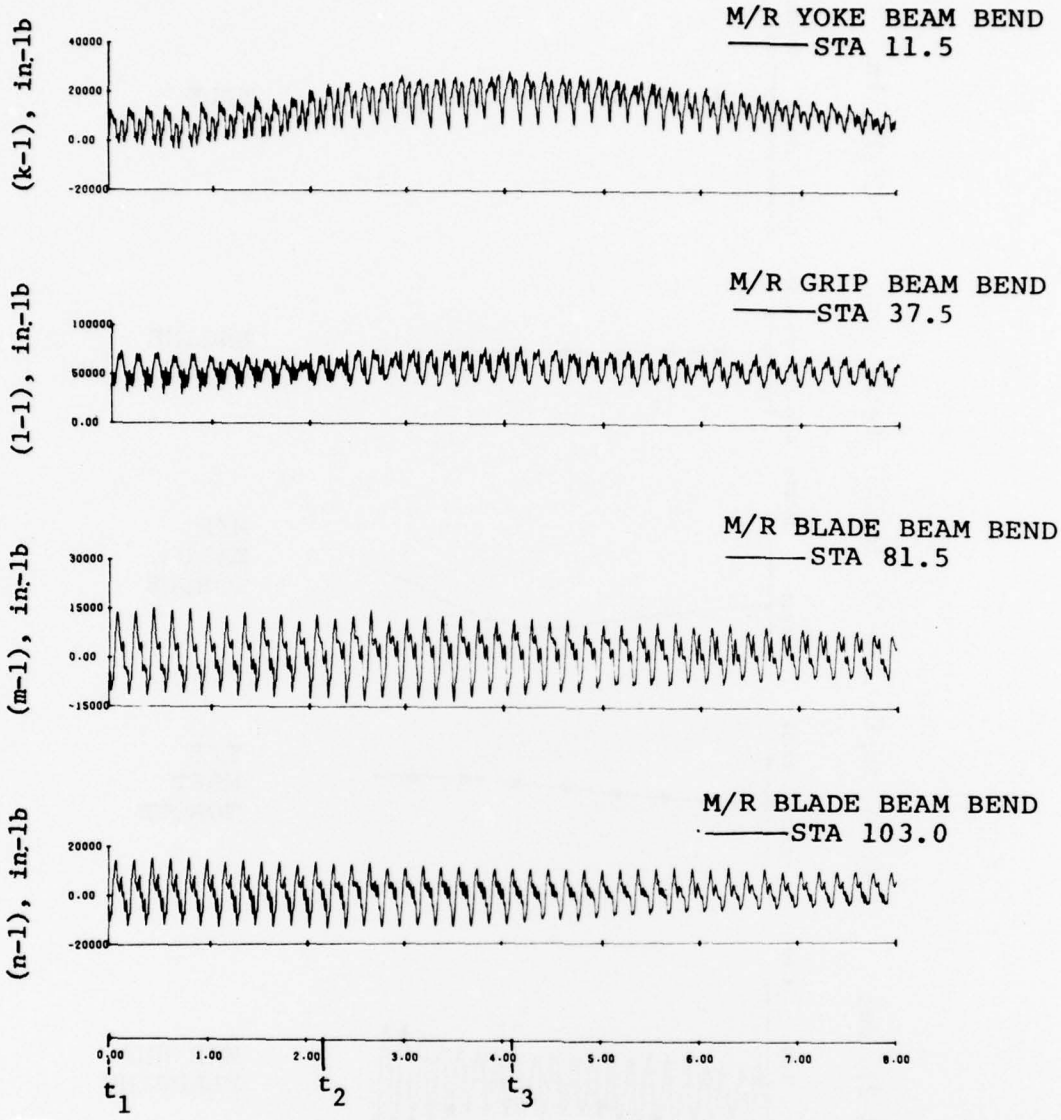


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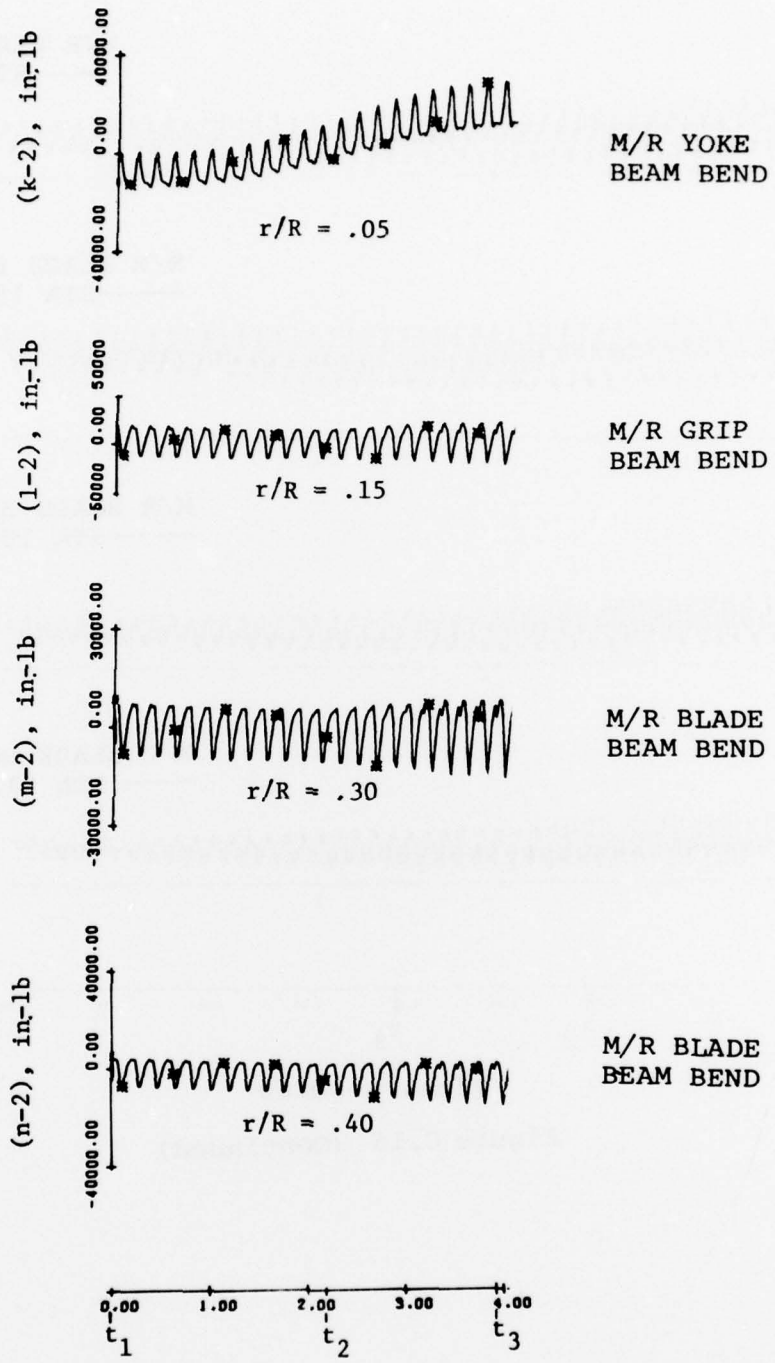


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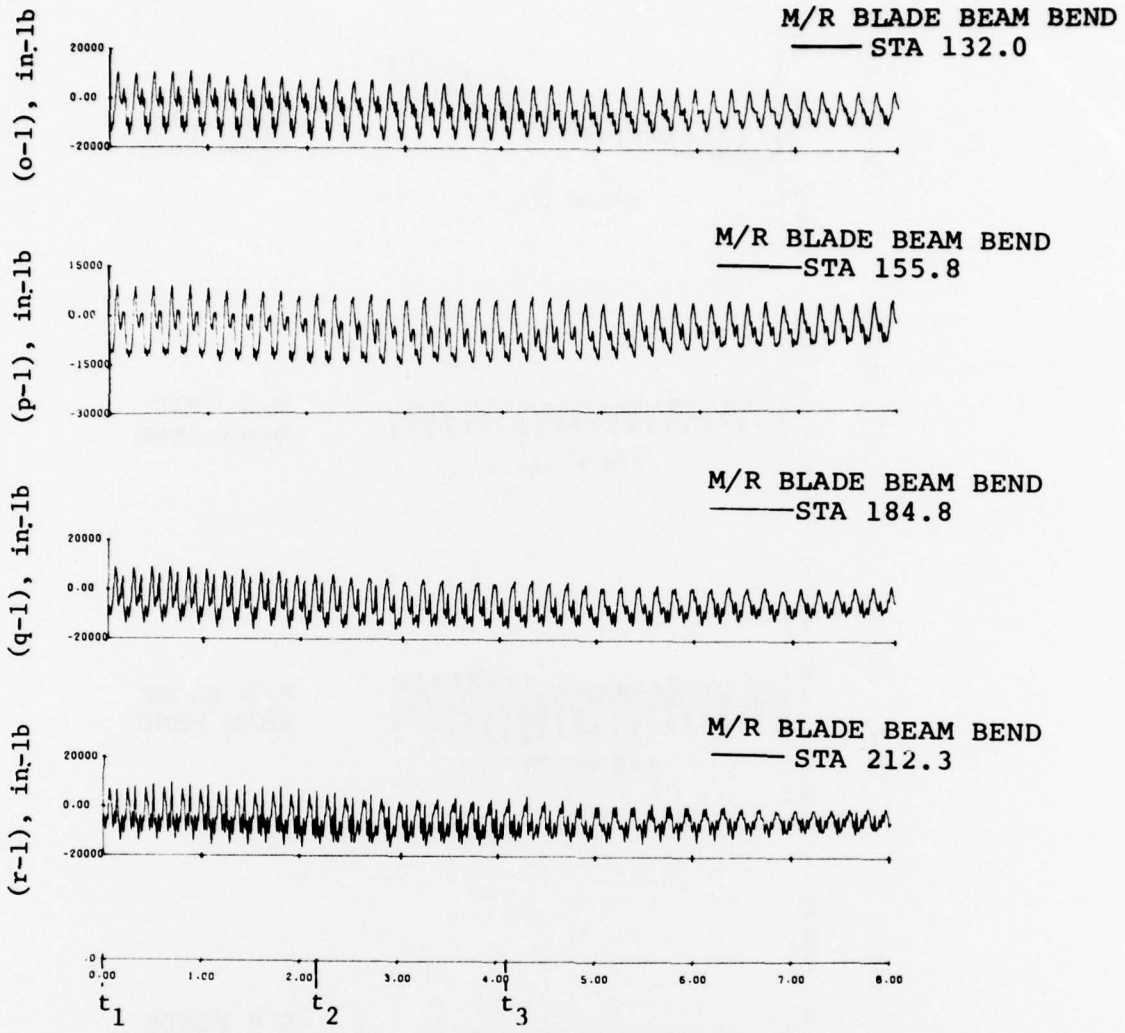


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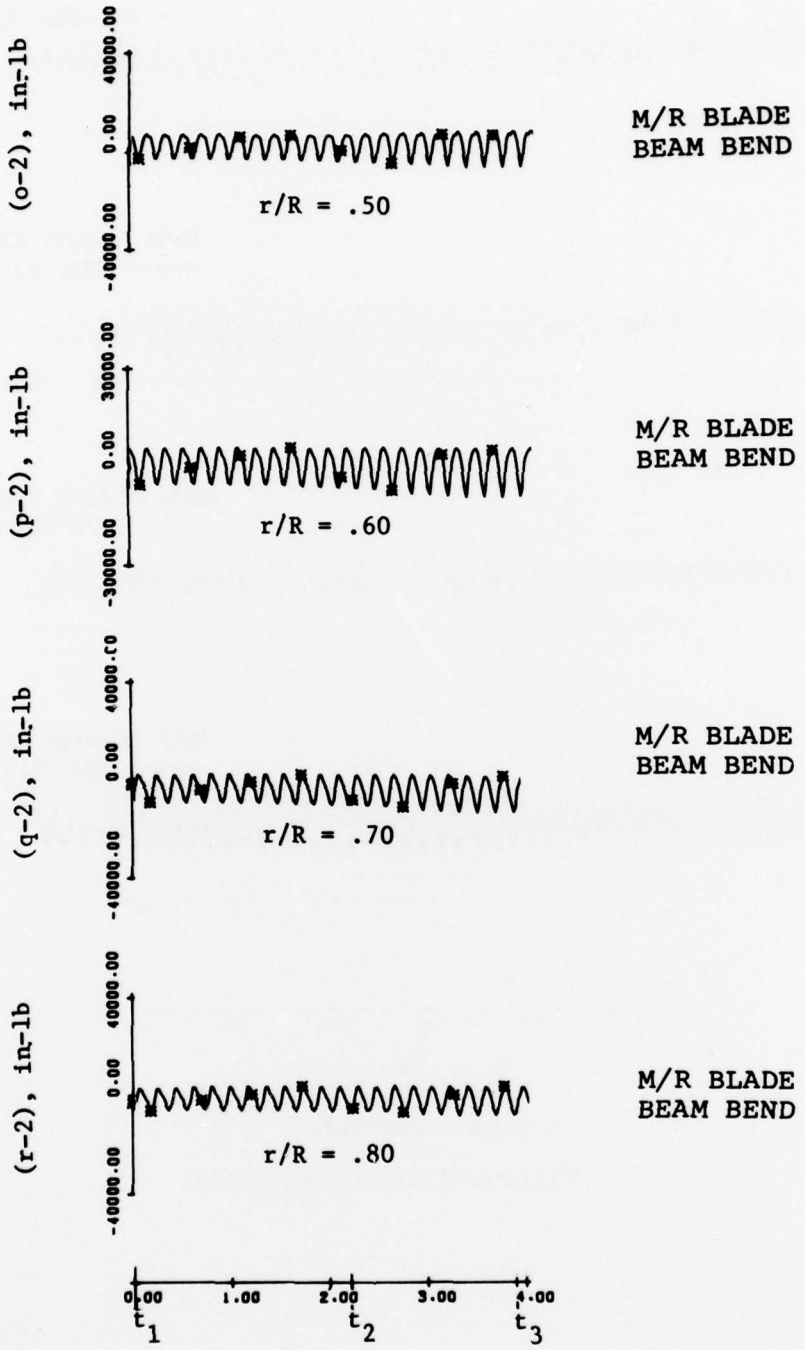
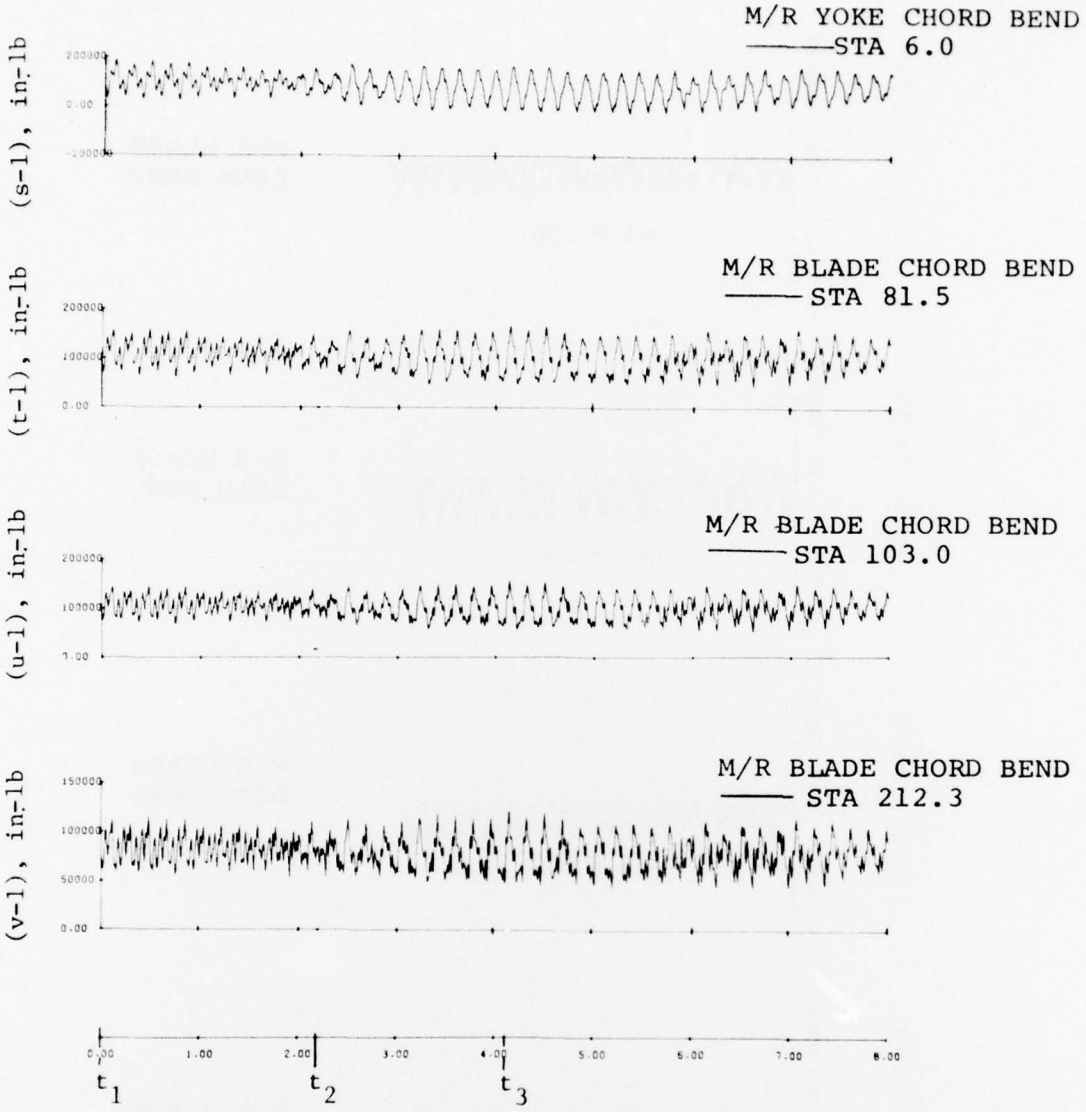


Figure C.16 (Continued)



Time, seconds

Figure C.16 (Continued)

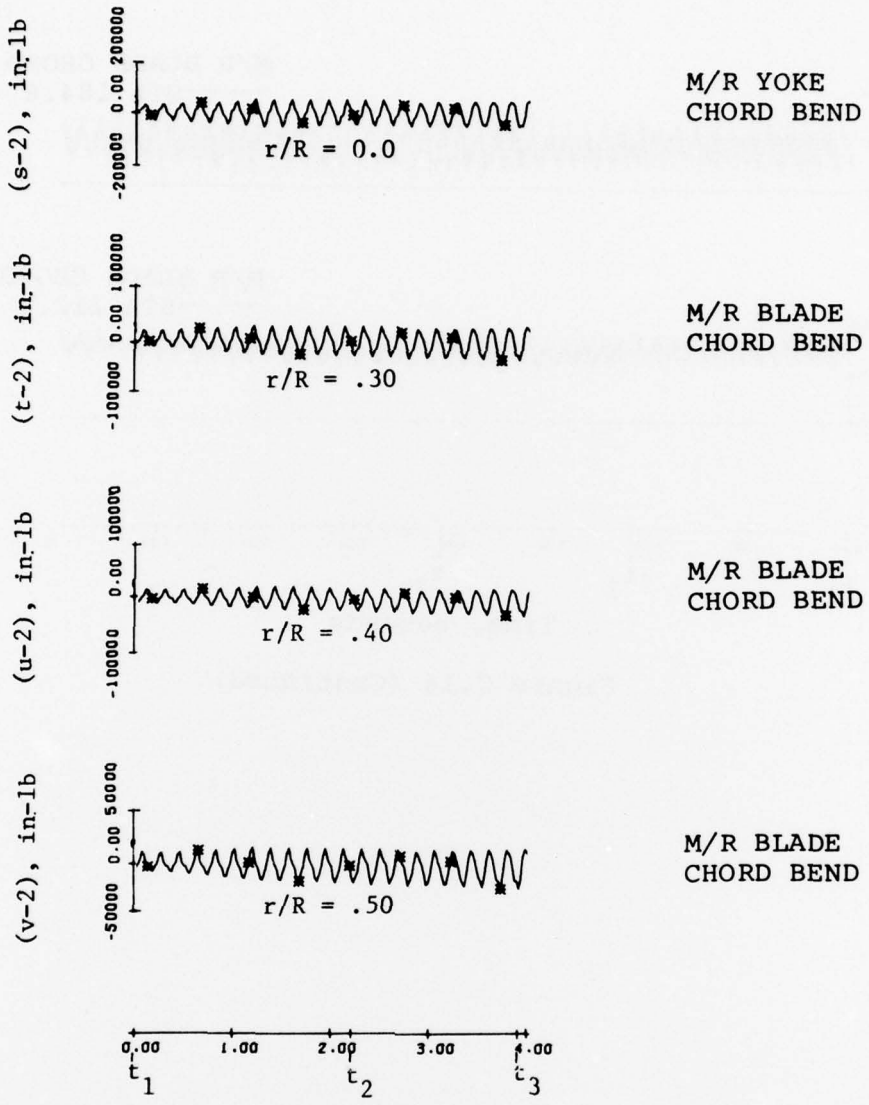


Figure C.16 (Continued)

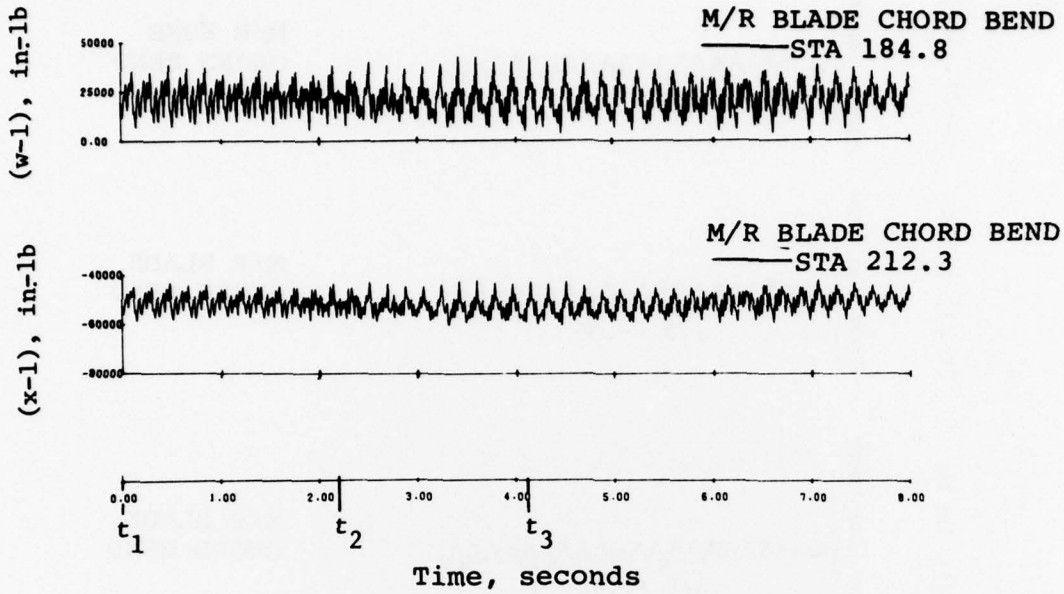


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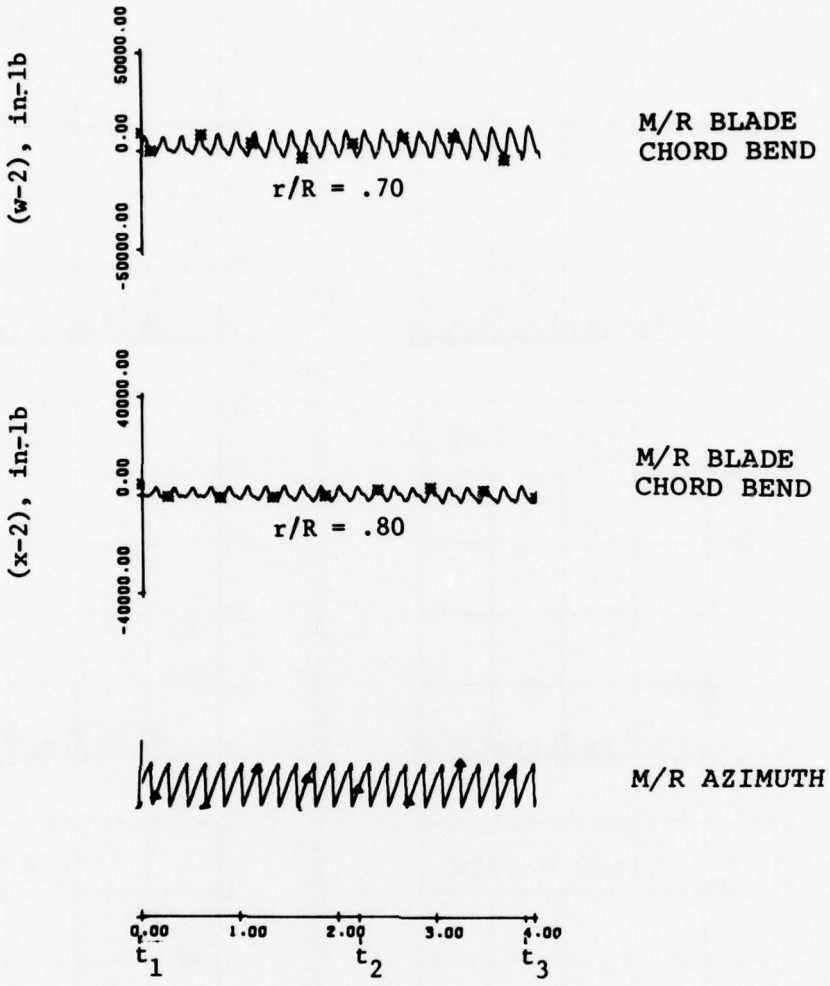
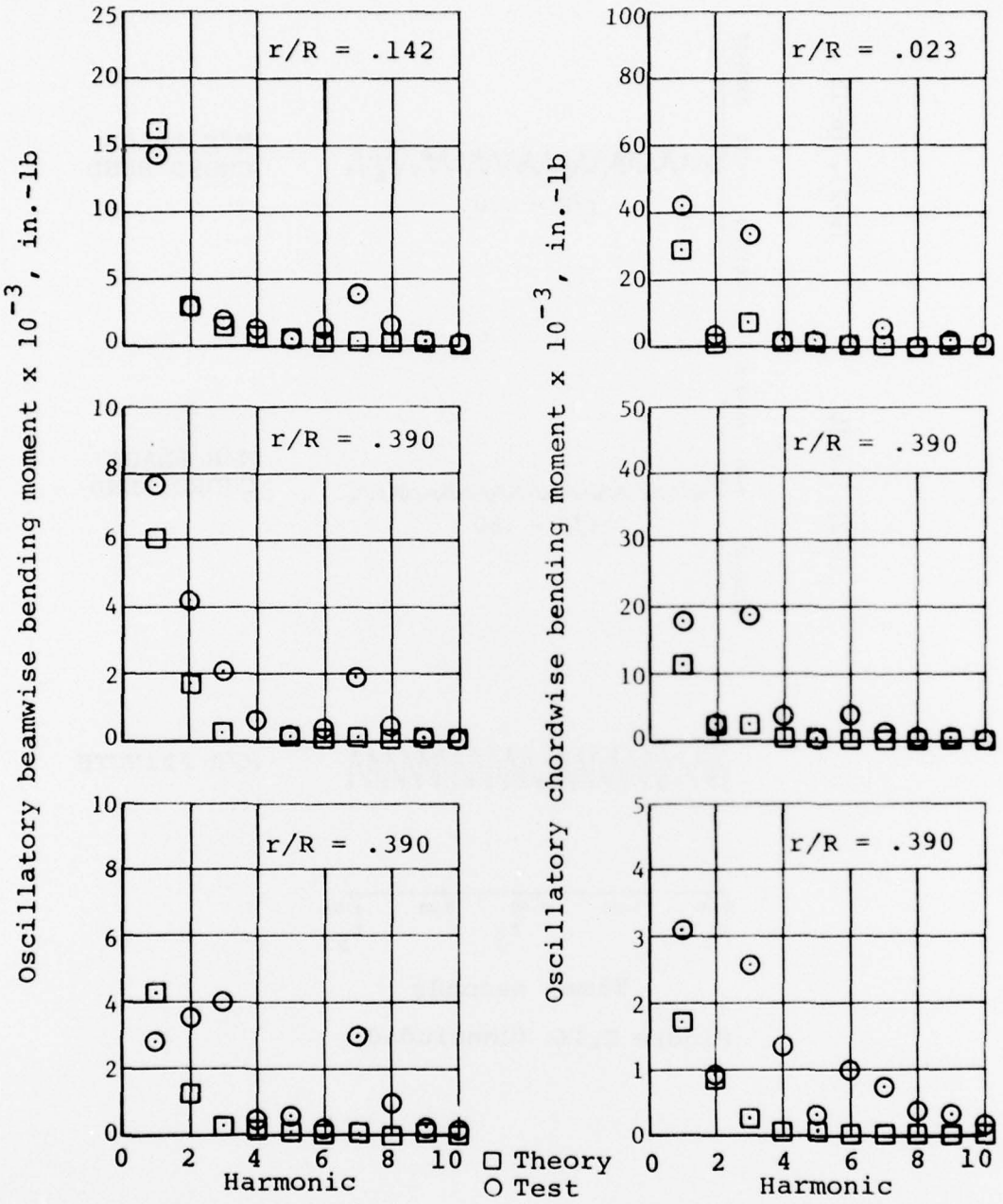
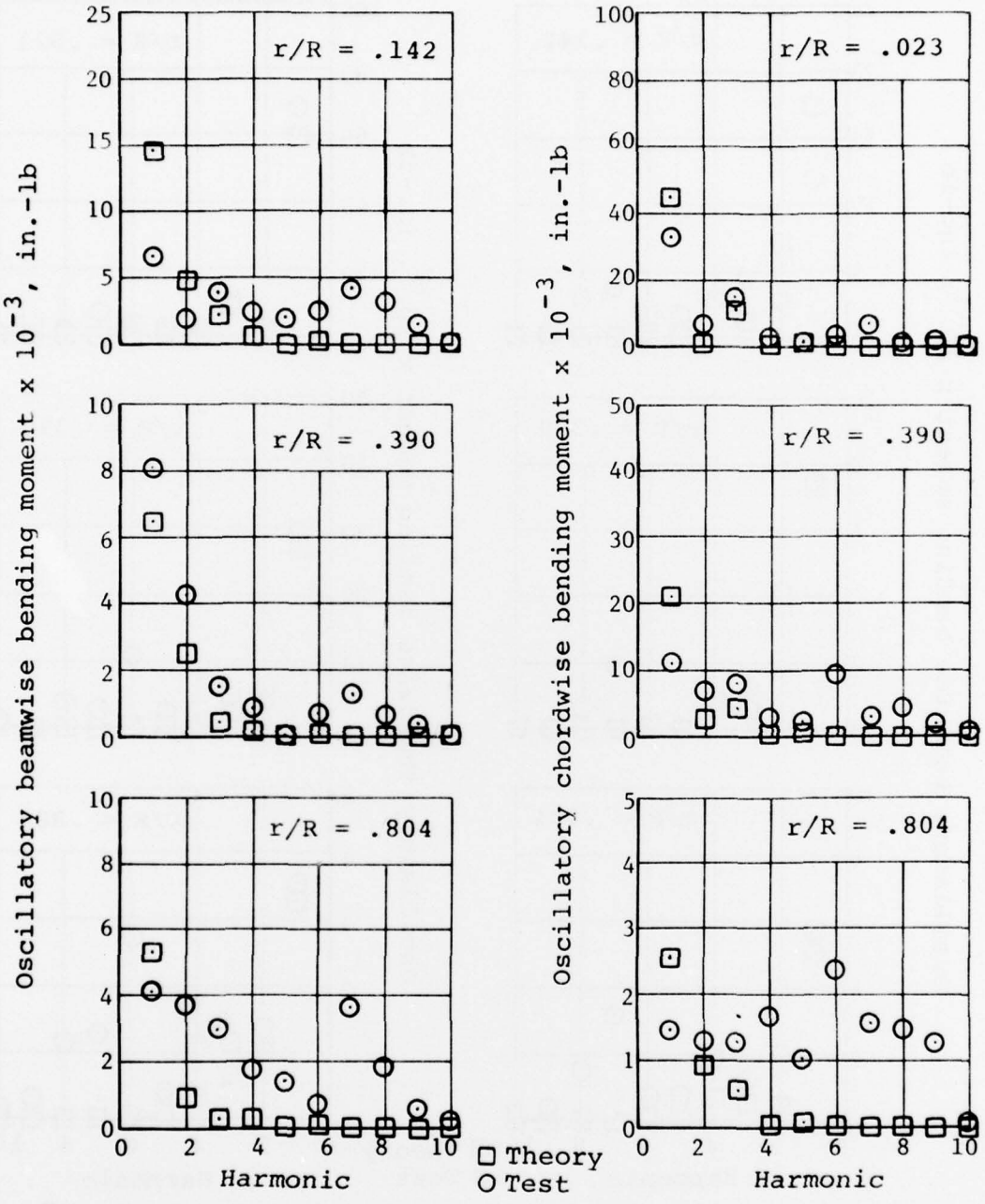


Figure C.16 (Concluded)



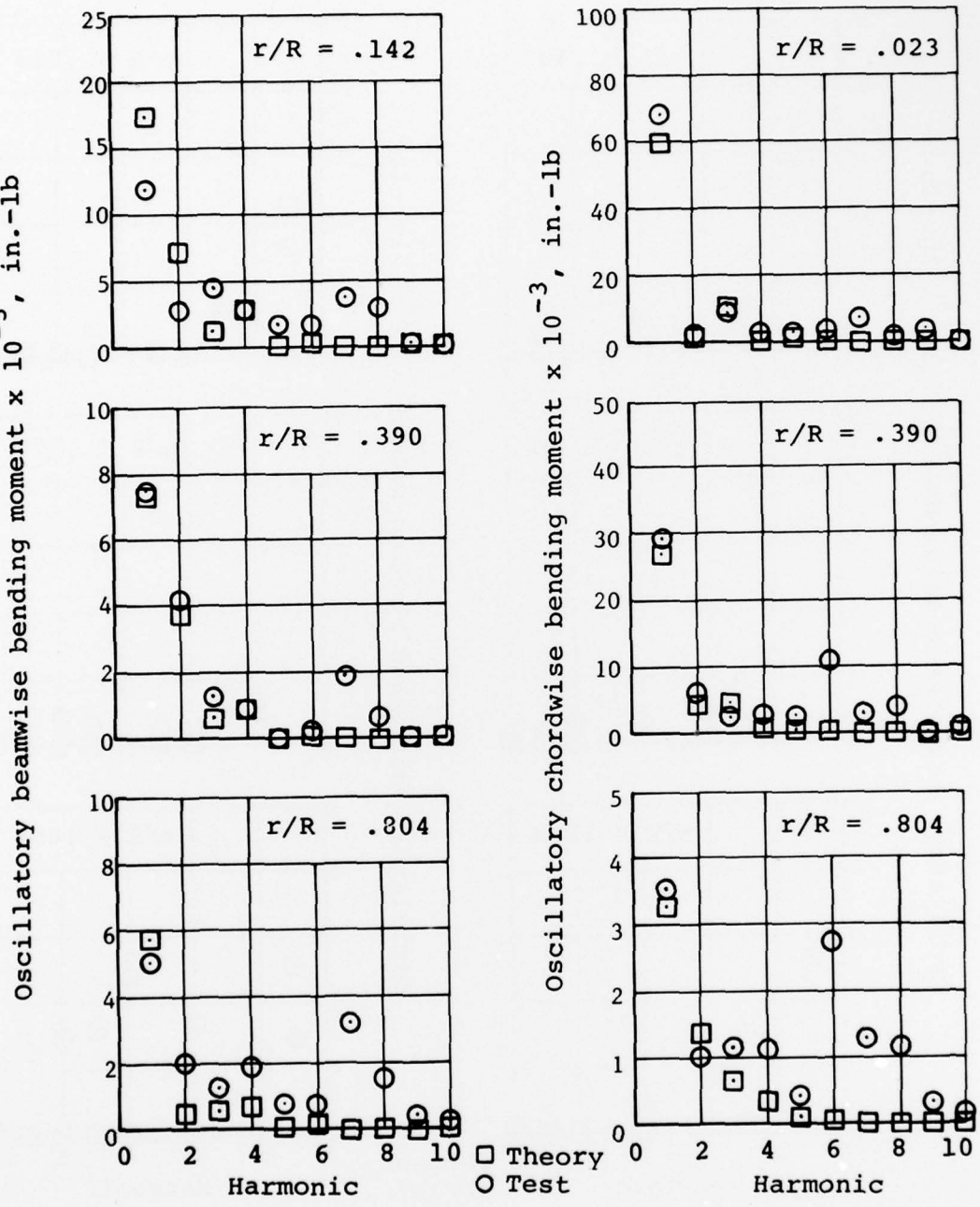
(a) Minimum oscillatory g-level time point, t_1 (0.0 sec)

Figure C.17 Comparison of measured and computed rotor bending moment harmonic components at various blade radial stations during a right turn.



(b) Maximum oscillatory g-level, time point, t_2 (2.2 sec)

Figure C.17 (Continued)



(c) Maximum mean g-level time point, t_3 (3.9 sec)

Figure C.17 (Concluded)

Level left turn
t_3, Max. mean g-level
t = 5.2 sec, 2.2 g's, $\Delta\Psi$ = 10°

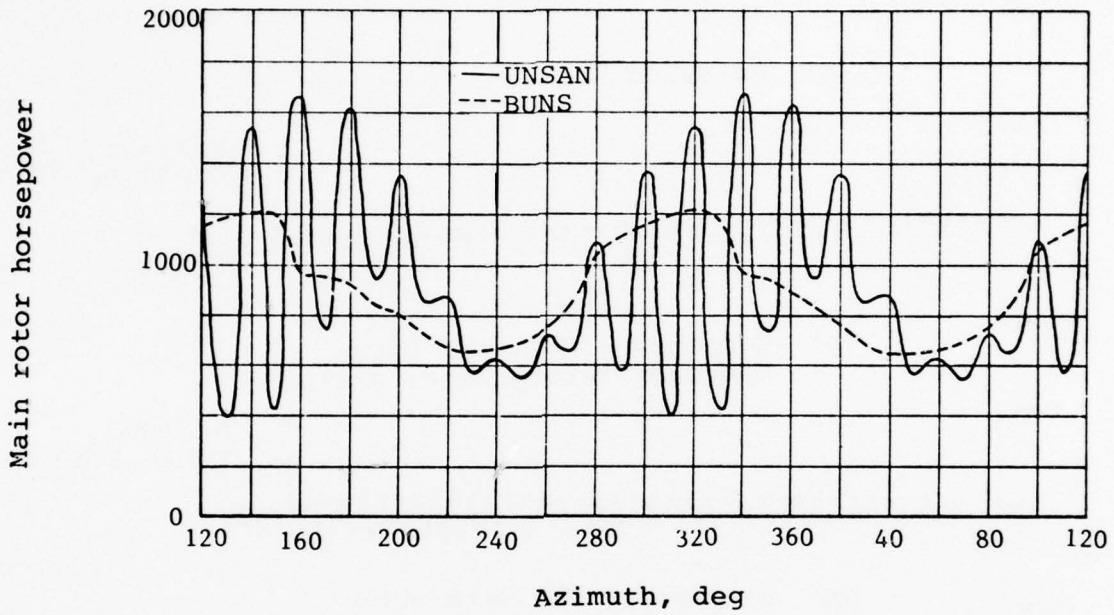


Figure C.18 Comparison of predicted main rotor horsepower using the UNSAN and the BUNS unsteady aerodynamics analysis.

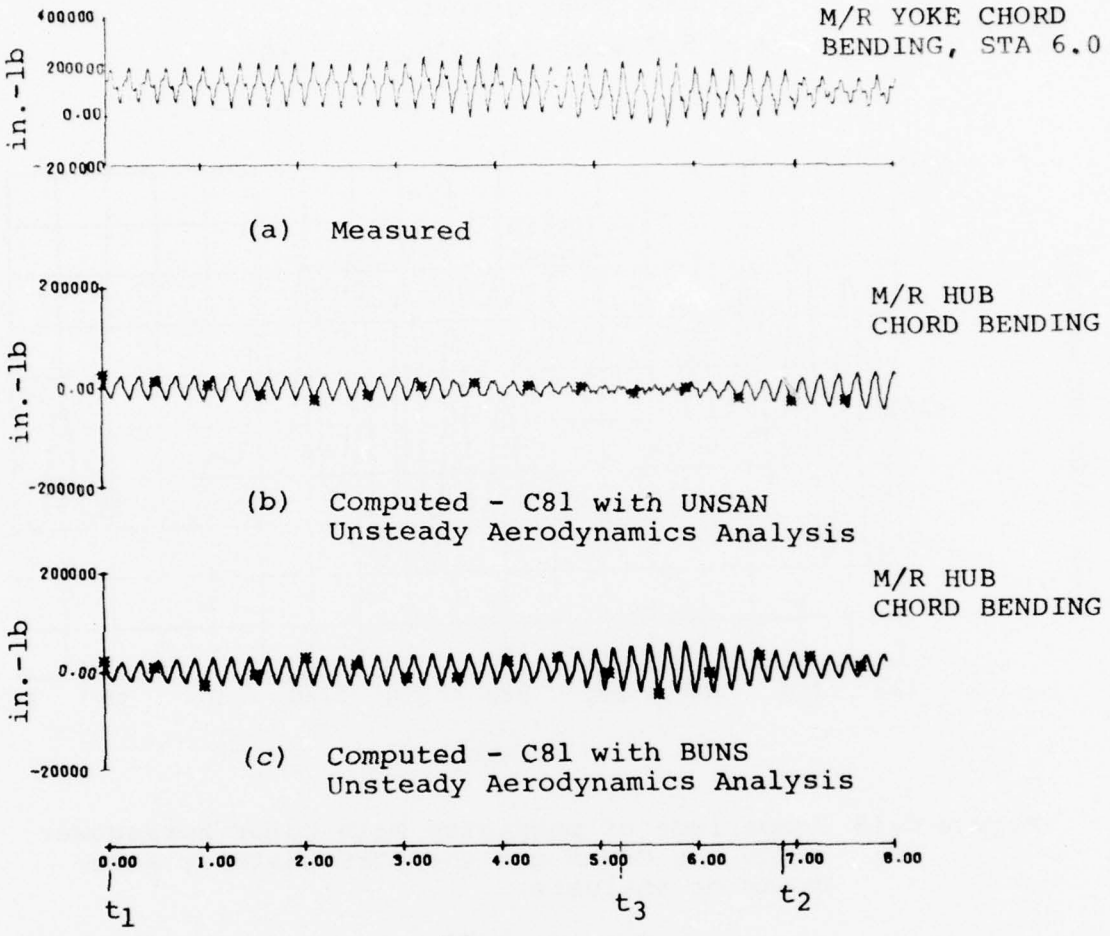


Figure C.19 Comparison of calculated chordwise bending moment time histories using different unsteady aerodynamics analyses.

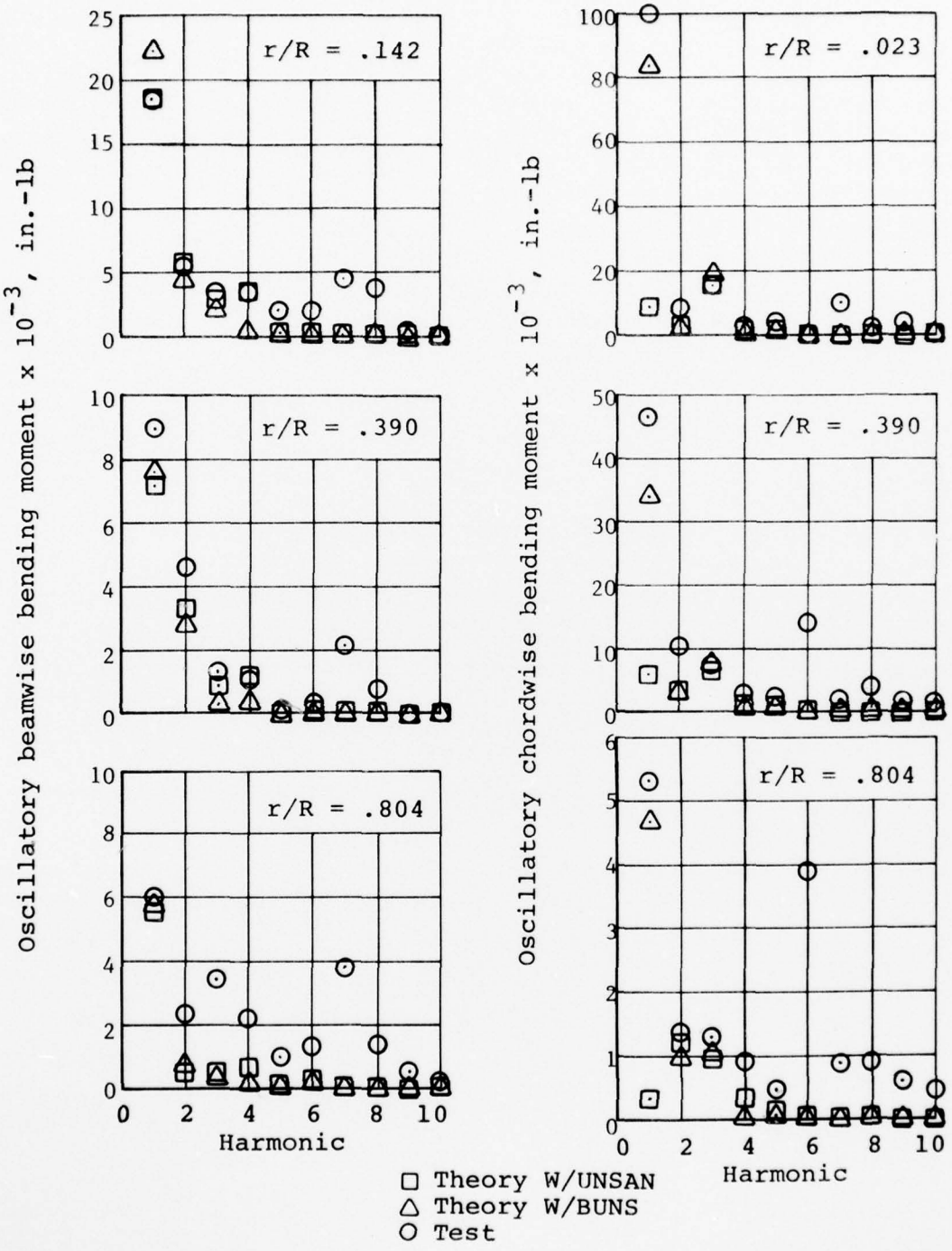


Figure C.20 Rotor bending moment harmonic components at various blade radial stations for a left turn, time point t_3.

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